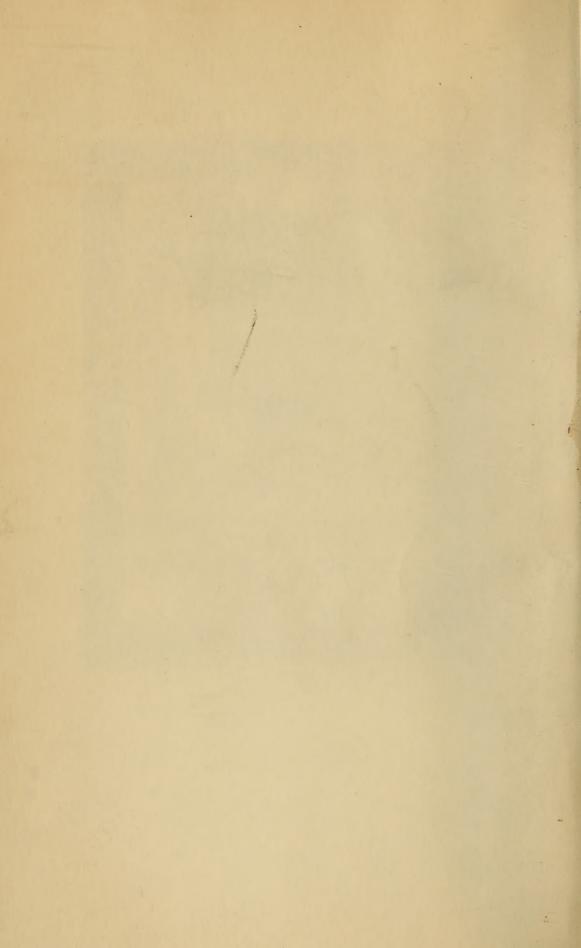


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DENTAL REGISTER

OF THE WEST.

MORNIO BY 2 TART AND MED. WATT

ROYAL COLLEGE OF

DENTAL SURGEONS OF ONTARIO.

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DANTAL SURGERNS OF ONTARIO

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## DENTAL REGISTER

OF THE WEST.

EDITED BY J. TAFT AND GEO. WATT.

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# DENTAL REGISTER

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### DENTAL REGISTER OF THE WEST.

Vol. XV.]

JANUARY, 1861.

[No. 1.

## Original Essays and Communications.

GOLD.

BY PROF. W. CALVERT, D. D. S.

EITHER the general or particular properties of this metal are too well known to the intelligent reader to be treated of here, my object moreover being rather to treat of the modus operandi of refining or purifying the same.

The process most commendable for dental Laboratory practice is the "humid" one. This consists in obtaining a solution of the metal through the direct agency of nitric and hydrochloric, or nitro-hydrochloric acid. The proportions of this Aqua Regia may vary from nearly equal parts of the two acids, to one part of nitric and four of hydrochloric.

When a metal is held in solution for the purpose of precipitation, the leading object should be to avoid a light, flocculent precipitate, and secure, if possible, a heavy and definitely crystalline deposit. Agreeably to the laws of crystallization, there are circumstances influencing, either favorably or unfavorably, the reduction of a metal when held by a solvent medium, such as heat and cold, the strength, or degree of the solution, both of the metal and the salt to be employed as a precipitant, as well as the rapid, or more gradual admixture of the two. These are things that should always be regarded, and, as well, the fact that equable re-

vol. xv.—1

sults depend, in part, at least, upon the uniform strength of acids employed.

It is well known to those who are familiar with dissolving and precipitating gold, by the usual methods, that after the metal has been dissolved, the solution is diluted with water. Nothing, I am free to say, could be more prejudicial to the most desirable results than this. Again, it is not generally conceded to be a matter of any moment, whether the precipitant solution is of definite strength or not. Here, too, is a like error.

I might, furthermore, remark, that the indications I am about to give of the proportional admixture of acids, are applicable, especially to gold containing but comparatively a small amount of silver. Where silver and gold are combined, the silver being in large proportion, or in excess, another, and materially different method, should be adopted, as will be hereafter indicated.

Into a florence flask, then, put (by weight) of nitric acid, 38°B., twenty-five (25) parts, and of hydrochloric acid, 21°B., thirty (30) parts. This forms the desired Aqua Regia, or solvent.

The gold now to be dissolved should, if convenient, be laminated—the thinner the better—so that a large amount of surface may be exposed to the action of the acid, thereby hastening its solution. If coin is used, each piece should be curved in such a manner that, when in contact with each other, the broad, flat surfaces will not be in apposition, and thus retard the action of the acids. The metal being placed in the solvent medium, the whole should be exposed to the moderate heat of 100° F., of sand bath, until ebullition ceases, when, if the metal is not all dissolved, the solution may be poured off, and an additional quantity of fresh acid added, and the digesting by heat continued. It should be the aim, always, to have the acid take up all of the metal that it is capable of, or, in other words, to obtain a saturated solution. When the gold has all been dissolved, the metallic

solution, being poured off, should all be placed in a suitable precipitating jar, and set aside to become cold.

As a precipitant, take the proto-sulphate of iron; and to prepare the solution, take any quantity of warm, or hot water, into which put this salt of iron until no more will dissolve—a saturated solution. This, now, should stand until quite cold.

When both solutions have become cold-and I might almost say, the colder the better—the proto-sulphate solution may be gradually added to the solution of gold, the result of which will be the falling of a heavy, brown precipitatemetallic gold. The solution of the salt of iron should be added as long as any precipitate continues to fall. When the precipitation is complete, and the whole has settled, the supernatant liquid may be decanted, or removed by means of a glass syphon. The gold should next be washed, by the addition of fresh, lukewarm water, the decanting, as before. and addition of water to be repeated, until it comes off free from acidity. After the last decanting of the water has taken place, the residue, together with all of the gold, should be removed to an evaporating dish, and, when no more water can be removed without loss of gold, the remaindor may be evaporated, leaving the pure gold in a highly crystalline powder, as may be readily seen under a medium magnifying power.

If desired, the metal may be packed into a clean crucible, placed in the fire, and subjected to a red heat for a short time, when it will have contracted very considerably, and, when cold, will be found susceptible of compression, and, subsequently, (due regard being had to annealing) may be wrought under the hammer into a massive form. This, however, being of but little practical utility, the proper course would be to fuse it in the crucible, the same having been previously well coated with borax, and, when thoroughly fused poured into the ingot mould.

I have already intimated that heat, cold, etc., influence the precipitation of a metal. Now, if either the metal or precipitant solution should be warm, it will be found that the deposit will not be so heavy as if it were cold; and, furthermore, will be darker in color. If the solutions be dilute, then the precipitate will be flocculent, and black. Should the iron be added very rapidly, the probability is that the deposit will be less heavy. And, lastly, if the acids employed are not of uniform strength, then, there will not be the same certainty of like results at different times.

I have already spoken of the refining of gold, and dwelt particularly upon the management of it when containing but a small amount of silver or alloy. My object now is to say something of refining the same metal, when there is a large proportion of silver present, or where the silver is in excess.

I may state here, that this method of treatment is that now practiced in the assay department of the United States mint.

The first step is to make an approximation, as to the relative proportion of silver in combination with the gold in hand for refining. This done, then add, by thoroughly fusing, an amount of silver (pure silver is preferable) sufficient to make the metals, when mixed, hold the relative proportions by weight of one part of gold to two parts of silver. When this combination has been effected in the crucible and cast in the ingot mould, it should be reduced or laminated into a thin sheet or ribbon—as thin as an ordinary mill will make it. This thin sheet should now be closely coiled or rolled up and placed in a suitable vessel to be subjected to the action of acid.

Unlike the former process, when aqua regia was employed for dissolving the gold, we here employ pure dilute nitric acid. The acid may now be poured over the coil of alloy, and a gentle heat applied, by which the action will be greatly promoted. This digesting should be continued until ebullition ceases, when, if there has been a sufficient quantity of acid,

the silver, with copper, etc., will be entirely displaced, leaving the gold, in the original ribbon form, pure.

I would here take occasion to state that certainty, on the part of the manipulater, as to the cause of cessation in the action of the acid should be absolute—not that ebullition has ceased because of a saturation of the acid with silver, but rather from the entire displacements of the metal, which may be readily ascertained by the addition of a small quantity of fresh acid, and applying the heat again.

This process, as will be readily perceived, is based upon the principle of the excess metal being susceptible to the action of its proper solvent, and the fact that this pure

acid is incapable of action upon the gold.

The acid holding the silver in solution should be poured off and retained, in order that the metal may be subsequently thrown down or reduced. The gold is now to be washed throughly with warm water, when it may be removed to a cupel, or to a piece of clean charcoal, and subjected to a cherry-red heat, after which it will be found in a pure state.

One advantage this method possesses over all others that I have any knowledge of, is that the gold remains united and entire, therefore lessening the liability of loss in the purifying process.

It is, I presume, the general rule of the laboratory to have suitable compartments for the reception of silver and gold filings which accrue in the ordinary routine of plate-work; yet, perhaps no arrangement will be so entirely secure as to prevent the admixture of the two metals in this form. In one case, the gold will be impoverished by the admixture of the silver; and, in the other, the silver will be uselessly enriched with the gold.

Here, then, comes into requisition the foregoing principle, in the employment of *pure* nitric acid to remove any silver that may have gained access to the gold, and in dissolving the silver filings, so as to make pure silver, thus leaving the

filings of gold, that may have become mixed with the silver, untouched by the pure acid.

It will be observed that I have here laid some stress upon the use of pure nitric acid. It is necessary, therefore, that explanation be made as to the why and wherefore. When the acid in question is not pure, one of the common impurities is known to be hydrochloric acid, which combination favors the evolution of chlorine, the solvent principle of gold. Obviously, then, the *impure* nitric acid would result in a partial solution of the gold filings, and consequent loss of this metal.

#### DENTAL EXHIBITIONS.

BY J. TAFT.

While reading the protest of the dentists of Upper and Lower Canada against dental exhibitions, some thoughts were suggested in regard to the subject. While we would not for a moment impugn the motives of many who exhibit specimens of dental work at fairs, we do think it competent and proper to hold up the principle and examine it in the light of reason and common sense.

The dental profession is a branch of the medical, which has for its prerogative the relief of human suffering, and ministering to the well-being and comfort of mankind, and it is that, which they who need its aid, should seek, rather than to be lured to it. It is, however, right and desirable that the people, or those who require or may require the aid of a physician, should be familiar with the characteristics and tests of capability and attainments. The manner in which this knowledge shall be communicated is the point in question. The knowledge of what a profession has the power to do is one thing, the knowledge of a man's professed ability is another thing. The special advantages of any particular process or mode is still another. The method of communi-

cating the knowledge of man's ability is the definite point for consideration. The best method of accomplishing this is that which will give those concerned the most accurate knowledge, and anything that would tend to lead them astrav is to be deprecated. And now we venture the proposition that in no way can the physician or dentist accomplish this so efficiently, or upon so firm and broad foundation, as by fulfilling in the most perfect manner, the demands of the public and his profession upon him. His own deeds, if accomplished in the clearest light of science, will proclaim the truth in regard to his ability with far more force than a thousand paper declarations, or than a whole bazaar of handicraft specimens. The practice of exhibiting specimens of dental work originated before the profession had made much attainment in science, or at least with those persons, whose scientific and professional attainments were not of the highest The object of such exhibitions is to announce or advertise the skill and ability of the exhibitor, and to attract the attention of the public to him, and to his operations.

If such exhibitions were, always a true criterion of the ability and skill of the dentist, we should consider the practice one of very doubtful propriety, for it is simply calling the attention of those interested, in an egotistical way, to himself. That this is true, is proven from the fact, that the name of the maker always accompanies the work exhibited. No one would place specimens of dental work on exhibition, without giving any intimation as to who was the maker. If such specimens were true indications of skill, it would be unprofessional to exhibit them, in the way referred to. The impression designed to be conveyed by such exhibitions, is, that the operator has great skill. A correct idea of skill can never be given by an unapplied piece of work, however beautiful it may be. The value of a piece of dental work, artificial substitutes, for example, does not depend upon the beauty of its finish, or the symmetry and regularity of its

different parts, but in its adaptation to the parts for which it is prepared, and its efficiency in this particular can only be determined, even by the dentist himself, by direct applica-It is oftentimes necessary to make plates to which teeth are attached exceedingly irregular and unsightly, and the teeth placed upon the plates quite irregularly, in order to look well in the mouth, or to antagonize properly with The true skill of the dentist would be quite as other teeth. well exhibited by soldering together and polishing two pieces of brass, and fitting on neatly a row of teeth to a board, as by the common specimens of mechanical dentistry exhibited at fairs. The regular and symmetrical arrangement of a set of teeth on a plate, does not give the least indication of the ability of the operator to select and arrange teeth to suit the various countenances, forms and expressions which may be presented. We repeat that such specimens are no indication of the skill of an operator, even in regard to mechanical dentistry; but if it did exhibit his skill perfectly in that department, it shows nothing in regard to his ability in that far more important particular of operative, surgical and medical dentistry. Indeed it is evidence that these departments are undervalued, and of far less importance, in the mind of the exhibitor, than the mechanical. The real intention of dental exhibitions is not to give those concerned a correct knowledge of the resources of the profession, but it is to attract attention to the operator, and to gain business; inasmuch as it does not give a correct knowledge, its tendency is to deception. In regard to gaining business by such methods, the history of every one who has ever attempted it, will prove it a failure. The persons who will be influenced by such exhibitions are of little value as patients, and those who are desirable patients will be repelled by such things. Every discriminating mind will see that there is no true test of skill in such things, and that the tendency is to deceive, and hence they will avoid them. We object again,



because such exhibitions are degrading and debasing to any branch of the medical profession, and are so regarded by all truly professional men.

#### "JUST TO PLEASE HIS MOTHER."

BY F. A. WILLETT.

On the 9th of September, J --- , a boy aged about 11 years, in his play fell and tore out the left superior central incisor. He ran into the house and told his mother what had happened. Upon asking him for the tooth, he said "it was out doors, but did not know where." By diligent search it was found in the mud. After washing the mud and dirt from it, she gave it to her husband, requesting him to take the boy to Dr. Allport and have the tooth reset, as "she believed it would grow in again." Being thus urged, he put the tooth in his pocket, and brought the boy to Dr. A.'s office, about an hour after the circumstance as related above had happened. He had "no idea that it would do any good, but to please his mother, had brought him up to have Dr. Allport do what he could for it." An examination was made by Dr. A., and it was found that a portion of the alveolus and gum, to the extent of three lines in width by six in length, was torn up. Having no large amount of faith as to the final success of the operation, he washed the tooth of the dust, dirt and tobacco that stuck to it from the pocket, and placed it in its former bed. After pressing it up firmly, it was secured by means of silk ligatures, connecting with the adjoining teeth. The loosened portion of the alveolus and gum, which was hanging, was also pressed back into place and kept there by the lip. The boy called in every few days to let the doctor see how he was "getting along." At the end of two weeks, the ligatures were removed, as the parts had become firm enough to retain the tooth without danger of displacement. Nothing more was heard of him till a few

weeks since, when he called to have it examined, as it was "getting pretty sore;" and sure enough, on examination, a large alveolar abscess was found to have formed and was about to discharge under the lip. An opening was made into the nerve cavity from the lingual surface of the tooth, the nerve extracted, and the abscess treated through this opening.

After being thoroughly treated for ten or twelve days, the nerve cavity was filled, and the case dismissed.

The tooth, at the present time, presents an appearance as healthy, and is set in the jaw nearly as firm as any of its neighbors.

Chicago, November 20, 1860.

#### "AMAUROSIS CAUSED BY A CARIOUS TOOTH."

-00-

You might as well say, "Amaurosis caused by having teeth."

In the Dental Cosmos for November, 1860, on pages 199-200, may be found an extract with the above caption. And, as it is foreign original matter, of course, it must pass, whether it be sense or nonsense. The detail of the case clearly attributes the loss of vision, of thirteen months standing, not to a "carious tooth," but to a "splinter of wood," and goes on, very astutely, to suppose it came there by a mechanical force sufficient to make it traverse the "center of the tooth," (an upper molar.) Now, I thank both the Professor at Milna and the Professor at Philadelphia-each most heartilyonce, and "F. P," as heartily, three times, (the exact number of times his initials occur in the detail) for the case, as it points a principle, and shows us that amaurosis can be produced by occult causes which, when removed, allow it to cease, in otherwise healthy subjects, which is very well for both novice and erudite dental surgeons to know. But as all cases are detailed for the purpose of instruction, let us not set down "remote, (the carious tooth) for approximate

(the splinter) causes, if we do not wish to befog and lead astray the needy simple ones we write to benefit. For, truth to say, but too few of us understand the significance of the accounts we are favored with from the medical journals, not only from the ambiguity of the articles themselves, but also, for the want of a knowledge of the parts affected, as to normal or abnormal physiological and pathological states, sufficiently accurate to enable us to criticise, intelligibly, the mere say so of any thing that comes to us from what we deemed a respectable source. It were better for us to stand still than to be inducted still further into the darkness. "Be sure you are right"—then advance.

A.

#### OBITUARIES.

-00----

#### BY A. BERRY.

It is usual to see in the newspapers obituary notices in which the writers draw largely on their imaginations. I think that in general such notices of dentists are truthfully written.

It may seem out of place to criticise such, and especially in connection with the death of the lamented Professor Harris. But in his obituary in the October number of the New York Dental Journal, is, I think, an error which, had it occurred in Dr. H.'s lifetime, he would have corrected at once. It is stated that "in 1840 he (Dr. H.) founded the Baltimore College of Dental Surgery." If I am not mistaken Dr. Hayden acted no unimportant part in connection with Dr. H. in founding this school.

There is another error, as it seems to me, in the preamble to the resolutions passed at the meeting of dentists lately in New York, which asserts of the Baltimore College of Dental Surgery, that it was "for a long period the only Dental College in the world." Was not the Ohio College of Dental

Surgery founded five years after that at Baltimore? Is that truly a "long period?" Would any one unacquainted with the facts suppose, from reading this preamble, that only five short years were intended to be understood by this "long period?"

A Practical Treatise on Mechanical Dentistry. By JOSEPH RICHARDSON, D. D. S., M. D.; Professor of Mechanical Dentistry in the Ohio College of Dental Surgery. In one octavo volume, pp. 427, with one hundred and ten illustrations. Philadelphia: Lindsay & Blakiston, 1860.

We believe this to be the *first* separate extended treatise on this particular department of dentistry that has ever graced American authorship. It is with pleasure that we have cursorily glanced over its pages and subject-matter, and are enabled to speak in general terms commendatory of the work.

We esteem it a privilege here in being able to express our gratification for the manifest enthusiasm that impels to the production of such a work—a comprehensive one having been long in demand. Emanating from the very authentic source that it does, it could not be well other than what it is—a valuable adjunct to dental literature.

The work before us for review is arranged in two parts. Part First includes a description of the modes of applying heat, the different metals brought into requisition for dental laboratory purposes, and their metallargic treatment.

Part Second is devoted to artificial dentures, and includes, in the order of arrangement, the general preparatory treatment of the mouth; the whole range of laboratory operations legitimately pertaining to the construction of artificial dentures; the different bases employed for dental substitutes; the manufacture of block-teeth, materials used in their preparations, together with defects of the palatial organs and their artificial remedial means.

In the first chapter he speaks of blow-pipes, their construction and use; of lamps, furnaces and fuel for baking teeth, etc.

The second chapter is upon gold, the sources from which it is obtained, its geological situation, its properties, how influenced by alloying, and properties of the alloys of gold.

Third chapter is devoted to the refining of gold. Of "sweepings" he says, "This form embraces many impurities, earthy and metallic, and should first be thoroughly washed to remove the earthy constituents," etc. I may remark that, inasmuch as in the washing of such sweepings, a less of metal would undoubtedly result, a better method would be to fuse together the sweepings and substances hereinafter mentioned, in the following proportions: Of sweepings, eight parts; chloride of sodium, four parts; impure carbonate of potassa, four parts; impure super tartrate of potassa, one part; and nitrate potassa, half part. Mix them thoroughly together, and melt in a crucible. The crucible with its contents should remain in the fire for some time, in order to secure a complete separation of the metals from the extraneous matter.

In chapter fourth, when speaking of the quality or fineness of gold plate to be introduced into the mouth as a base for dental substitutes, he says: "But, it must be remembered that, in addition to corrosive agents introduced into the mouth from without, a variety of diseases, local and constitutional, effect important changes in the otherwise bland and innoxious fluids contained therein, which, from being alkaline or neutral, become more or less acidulated. Indigestion, with acid eructations, gastro-enteritis, ague, inflammatory and typhoid fevers, brain affections, eruptive diseases, rheumatism, gout, etc., are some of the local and constitutional disorders almost uniformly imparting to the mucous and salivary secretions an acid reaction. These readily attack the impoverished gold too frequently employed as a base for artificial teeth; and, as a natural sequence to such practice, we find supervening

inflammation of the mucous membrane and gums, apthous ulcers, gastric irritation, general nervous disorders, decay of the teeth, fœtid breath, disagreeable metallic taste in the mouth," etc.

Fifth chapter, when speaking of the required forms of metal for dental purposes, a fact is set forth worthy of note to the metallurgist at all times. He says: "It not unfrequently happens that, at the first pouring, the metals arrange themselves in the ingot in accordance with the density of the several components; those of the greatest specific gravity passing to the bottom, and the lighter metals remaining above."

The phenomenon here presented seems most conclusive to our mind to be more the result of special affinity of the components, than of mere specific gravity. By reason of the above (whether the results of specific gravity or of special affinity), in the assay of the precious metals, where like combinations are required, granulation is resorted to in order to avoid this objectionable condition which sometimes ensues in the congelation of the ingot metal.

In this chapter is contained various formulas for the different standards of plate and of solders, rules for alloying gold, raising as well as reducing the fineness; also, a comprehensive table, indicating the weight, fineness and value of the coins of different nations.

The sixth chapter treats of silver; first, of its general proportions, then its alloys, next its reduction to the required forms, and lastly formulas for silver solders.

He speaks of the employment of silver in the mouth as a base for artificial teeth, as "having been regarded by many as unsafe and injudicious," and furthermore: "If used at all, therefore, it should be reduced with the least practical amount of copper; or, what is better, pure silver should be reduced with platinum alone, in sufficient quantities to impart to the plate an adequate degree of strength and elasticity. From three to five grains may be added to one pennyweight of

pure silver. This is, doubtless, a valuable combination, and is certainly worthy the regard of every dental practitioner.

I notice that under the above head, the author has failed to give the process of refining silver, so as to obtain it in a

perfectly pure state.

Seventh chapter is given to platinum and the platinoid metals. First, the general properties of platinum, its requisite condition for dental uses; its welding, forging and general working; its alloys; and, lastly, the platinoid metals, as palladiums, iridiums, etc.

Eighth chapter is upon aluminium. We find here that, while its general properties, alloys, etc., are spoken of in full, no well founded hope is given that it will ever be of practical utility in dental practice.

The ninth chapter is given to a consideration of some of the base metals, as copper, zinc, lead, tin, antimony and bismuth and their alloys; affording such general knowledge as will be found indispensable in the subsequent laboratory work of die-making.

Chapter tenth, in some general remarks upon alloys and alloying, he says: "In alloying three or more metals differing greatly in fusibility, or that have but little affinity for each other, it is better to first unite those which most readily combine and afterward then with the remaining metal or metals."

In addition to the above we would furthermore suggest, as a practical rule in *all* combinations of metal, union by pairs, having, at the same time, also proper regard to their affinity.

Part Second, chapter first, deprecating the practice of inserting an artificial denture over diseased roots of teeth, where the gums are already in an inflamed condition, he remarks: "Soon becomes (i. e., the denture,) a source not only of annoyance and discomfort to the patient, but is rendered, in a degree, insufficient in the performance of some of its most important offices. There is, besides, a perpetual and cumulative aggravation of the morbid conditions, and sooner

or later irretrievable destruction of the remaining natural organs will be induced. These consequences can not be wholly averted by the most skillful manipulation, but they may be greatly magnified by a defective execution of the work, or by a faulty adaptation of the appliance to the parts in the mouth."

He then, in plain terms, indicates the duty of the practitioner in relation to the above practice, and the obligations resting upon him for the faithful discharge of such duty, and says: "He should be careful to guard himself against the imputation of incompetency or bad faith, by being peremptory and unyielding in his demands upon the patient to submit to the necessities and just requirements of the case," etc.

We are pleased to see the author come boldly up to this true stand-point, assuming the position that every truly worthy practitioner should, commanding the respect and honor to which his profession but justly entitles him.

Of the surgical treatment of the mouth, subsequent to the removal of teeth, he says: "Immediately after the extraction of the teeth, therefore, any flaps of gum hanging loosely around the sockets, should be clipped off, and the sharp, protruding portions of the processes cut away with excising forceps," etc.

From this we must dissent, preferring rather to rely upon nature to accomplish her work of decomposition and assimilation with a simple wound, rather than to render it a complex one by "clipping off the flaps of gum," (of which there should be none), and breaking down the "sharp and protruding portions of the processes." Should there be fragmentary portions of the processes visible, then of course, in any case, their removal is clearly indicated.

Where proper regard is had to the removal of teeth and roots of teeth—avoiding, by every possible means, the undue laceration of the soft parts, or fracturing the surroundings—there does not seem to us a necessity for inflicting so severe a penalty in order to avoid subsequent inconvenience, or even

slight perodical suffering. The infliction of pain upon patients should ever be sedulously guarded against.

He says the objection has been urged against the practice of inserting temporary teeth, "that they tend to produce unequal absorption of the parts on which they rest." This view he regards as "mainly speculative," for, as the "ridge recedes in the process of absorption, it is more and more relieved from direct contact with the plate resting against the roof of the mouth, preventing it from following the retreating gums." Observation has led us to believe that, in some cases, the reverse is true; being cognizant of cases showing a striking conformation of the alveolar ridge, both superior and inferior, even at the late period of three years after inserting the temporary teeth. This condition in the upper jaw seems to us the result partly of change in the tissue from pressure of the plate against the roof of the mcuth, and partly from the yielding of plate favoring its adaptation to the ridge. This last, however, will not apply to the inferior ridge, where we have frequently seen the same result. do not wish, however, to be understood as not advocating the practice of inserting these substitutes. On the contrary, we deem their general utility and approximation to subserve the natural wants too apparent to be ignored.

Chapter second—preparatory to a description of taking impressions of the mouth, he very appropriately and truthfully favors the importance of this preliminary step toward the construction of the dental substitute. We would direct attention to another preliminary which is omitted, and that is a careful and thorough examination of the mouth. We conceive to be of the first importance that the operator should note particularly all parts to be included in the impression, such as form and position of teeth (when remaining), the texture of the alveolar ridge, arch, etc.

After speaking of the substances for taking impressions, he goes on with a minute and comprehensive detail of taking the various impressions of the mouth. We notice in this VOL. XVI.—2.

chapter, under "taking impressions with plaster." omission of some little things; but, nevertheless, such as we think contribute much toward perfection in the manipulation we are considering. First is, after introducing the cup (containing the plaster) into the mouth, distending the cheeks with the tongue-holder, conjointly with "extending and drawing outwardly the lip." Then, when about to take an under impression, direct the patient, when the cup has been introduced, to elevate the tongue toward the roof of the mouth, allowing it to assume its proper position as the cup is pressed down upon the alveolar ridge; and, furthermore, as in the case of taking an upper impression, alternately distend the cheeks with tongue-holder. In this way the loose integuments and muscular folds will be excluded from the impression, which otherwise so frequently cause defective impressions.

Chapter third—in obtaining plaster models from impressions in wax, he advises that the surface of the impression should be thinly coated with oil; and, furthermore, speaks of rendering the model imperfect by the *injudicious* use of the oil. For the self-same reason that he urges to its *improper* use, we would bring against its use in any case; our preference being most decidedly to "oiling" with water—allowing a stream of water to flow into the impression for a few minutes, then, with a sudden throw of the hand holding the impression, the excess of water is displaced, when proceed to fill as described.

We would here suggest, as a necessity for careful examination of the mouth, to which allusion has already been made, that, in case attachments of the frenum linguæ approaches near the prominence of the ridge, the cast at this point should be slightly elevated with wax, so as to provide relief from the pressure of the plate. Or where the position of the anterior mental foramen through which comes the inferior maxillary artery, are such as to admit of pressure by the plate, like provision should be made with wax upon the plas-

ter casts. This is also applicable sometimes to the palatine artery in its passage through the foramen incisivum.

When the model is to be obtained from impression in plaster, he advocates the use of spirit varnish upon the surface of the impression, thereby coating it, then oiling the surface as in the case of wax impression. From this we must beg to differ, believing that more desirable means may be employed; i. e., soaking the plaster impression for some fifteen or twenty minutes in water, or what is more preferable, soap and water. After there is a complete saturation of the plaster with the liquid, it should at once be surrounded with the wax-cloth, and filled as described.

Chapter fourth is devoted to metallic dies and counter-dies, embracing the manner of molding in sand and obtaining the die, then making the counter-die; speaks at length of the essential properties of a die.

Chapter fifth takes up pivoting teeth; describes the various, most recent and improved methods for performing this operation.

Chapter sixth. This opens with remarks upon the use of clasps, which are thorough and practical; then refers to the classes of teeth proper to clasp to, as well as those that should not be clasped; the different form of clasps; variety in form of plates for partial denture retained by clasps; swaging of such plates and attaching clasps thereto.

Chapter seventh. In this chapter he gives a method of ingeniously substituting cylinders of wood and tubed plates for clasps attached to plates. This method, although originating some years since, by Dr. W. M. Hunter, seems not to have gained general approval.

Chapter eighth. In this is given the combined use of metallic plate, pivot and clasp for special cases; had been of great utility indeed when properly applied.

Chapter ninth. Plates retained in the mouth by atmospheric pressure. We observe that under this head he does not say anything of the relative size or depth of cavity. These

are practical points, and therefore it is that we make allusion to them.

For the greatest amount of atmospheric pressure we must needs have the largest possible surface. In such plates (the use of which is implied), however, the size of the air-vacuum will depend upon the particular configuration of the mouth. The depth of the cavity, like the size, can be but relative. Where the alveolar arch and ridge are uniformly firm in their texture, the cavity should not be deeper than would be formed by elevating the cast twice the thickness of common card paper. Where the roof of the mouth is comparatively spongy, it should be of greater depth, proportionate in a measure with the yielding tissue.

Another (although in some respects similar) method of forming the chamber, the credit of which I believe is due to Prof. T. L. Buckingham, consists in employing a piece of copper, of the desired shape and thickness, to give form and depth to the cavity, instead of the usual elevation upon the plaster model and metallic die. When the plate, having an orifice corresponding with this piece of copper, has been nearly swaged, a thin cap is struck up over the plate and copper. This cap is now trimmed, leaving a narrow margin overlapping upon the plate. After the swaging has been completed, borax and solder should be placed around the proposed line of union of cap and plate, and, with a small iron or steel clamp holding them together, they should be carefully bedded in some dry sand, and the soldering accomplished.

Chapter tenth. Contained in this chapter we have, making antagonizing models of partial dentures; selecting, arranging and antagonizing the teeth; investing, staying, soldering and finishing cases.

For investing cases preparatory to staying and soldering, he recommends a mixture of "plaster, sand and asbestos two parts of the former and one part each of the latter." From our own knowledge and observation in this particular, we are led to conclude that the proportion of plaster here recommended is too great, believing that so large proportion is calculated to induce warping of plates.

Of finishing or polishing plates, he copies at length an article which he attributes to the pen of Prof. T. L. Buckingham, but which was written by Prof. J. L. Suesserott and published in a dental journal. We may state, in this connection, though somewhat irrelevant, that this peculiar and commendable plan of finishing plate-work, originated, as we are informed, some eight years since with Prof. W. Calvert, which it would have been well for the writer to have noted.

Chapter eleventh. The subject matter of this chapter includes the making of entire upper and under plates; their adaptation to the mouth; securing the proper occlusion of the jaws, etc.; together with rimming plates, making and adjusting spiral springs, and final adjustment of the complete denture in the mouth.

Chapter twelfth. The author here enters upon another and materially different branch—different as relates both to material employed and manipulation.

First, we find the component parts of tooth-porcelain considered. In speaking of these substances, we notice he fails to give practical indications for their selection, and for ascertaining their absolute quality by suitable tests. The most important one of these, and the one entering most largely in the composition of porcelain, is feld spar. It varies very materially in quality, even that obtained from the same locality, and yet, to the unpracticed, the difference in its general aspect would not be distinguishable. It is a double silicate of alumini and alkali. The alkali may be soda or potassa, and upon either will depend the quality of the spar, good or bad. He says the spar "is prepared for use in the same manner as silex." So it is; but it should never be ground near so fine—not finer usually than will readily pass through a number nine bolting-cloth seive.

Chapter thirteenth. In this we find described the manner

of combining materials for body and enamels; making models and moulds; the process of carving, enameling, baking and mounting block-teeth.

There are other methods of making block-teeth not mentioned here. One somewhat peculiar in itself, and possessing no inconsiderable merit, is that invented by Prof. W. Calvert, and consists in enameling and moulding the blocks. The complexity of the process, together with want of time and space, forbids that we should further extend our remarks. We find him omitting the manufacture of single teeth altogether.

Chapter fourteenth. In this is contained a full descriptive treatise on the manufacture and use of what is termed continuous gum work.

In this style of work, platinum is employed as the baseplate, formed and adapted to the mouth as plates usually are, after which the silicious material embodying the teeth, is baked or semifused upon the plate.

Chapter fifteenth. In this is described at length the construction of dental substitutes where, as a base, the "vulcanite" material is brought into one; the vulcanizing apparatus; directions for vulcanizing, finishing, etc.

Chapter sixteenth. He here considers a method of constructing cases of artificial teeth, termed "cheoplasty." This method, although of recent origin, has not received the approval of the profession generally.

The concluding chapter is mostly a quotation from the pen of C. W. Stearns, surgeon, formerly of London, who treats ably upon the "defects of palatine organs, and their treatment by artificial means."

The general style of this work and the substantial manner in which it is gotten up, is especially creditable to its publishers; furthermore, we may say, what has already been said, that in this treatise we have another added to the list of important text-books.

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## Proceedings of Societies.

#### MINUTES OF THE CINCINNATI LOCAL DENTAL AS-SOCIATION.

CINCINNATI, Dec. 11, 1860.

Local Dental Association met pursuant to adjournment at the Dental College. Members present—Drs. H. A. Smith, Richardson, Taft, Cameron, Wells, James and Davenport. Minutes of the previous meeting read and approved.

On motion of Dr. DAVENPORT the rules and regular order of business were suspended.

Dr. Taft moved that hereafter the Association meet at 7 and adjourn at 9 o'clock. Adopted.

Also, "That a committee of two be appointed to draft a code of ethics for this Association, and to present the same at the next regular meeting for its consideration and adoption."

Resolution adopted, and Drs. Taft and H. R. Smith appointed as the committee.

Dr. Taft also presented the following as an amendment to the Constitution:

"That the name of this Association be changed to that of the "Academy of Dental Science."

Laid over for one month.

Dr. RICHARDSON mentioned a case of a lateral incisor he filled. After preparing the cavity for the filling, and drying with bibulous paper, it became flooded before any portion of the filling could be introduced. Upon examination found a considerable amount of serum in the cavity. There had been ossification of the pulp. The new formation of dentine seemed to be much harder than the other portions. Thinks it was exudation from the pulp, and must have come through a fissure between the new and old formations of dentine.

After having failed to fill with crystal gold foil, used blocks.

Dr. TAFT had seen similar cases. Thinks the exudation came through a fissure. Remembered drilling out the fissure and inserting a hickory pivot, and then filling in the ordinary manner.

Dr. RICHARDSON further thought it was a case of transformation of a portion of the pulp, and the membrane had been absorbed, leaving a fissure through which the serum exuded. Found the dentine somewhat sensitive.

Dr. Taft mentioned a case—inferior bicuspid—pulp dead, cleaned out the tooth for filling. There was considerable periostitis. Used the mallet in condensing the filling. The sorensss very severe at first, but gradually subsided as the operation progressed, and, when the filling was completed, had been entirely removed; can fill with the mallet where the hand pressure would not succeed, owing to periostitis. Have filled many teeth where there was acute periostitis, and have had no trouble with them since; thinks the cure is permanent.

Some informal conversation was had by different members upon the fit of plates for artificial teeth. Cases were mentioned of plates fitting very well sometimes, and at others less perfectly. The difficulty was by some supposed to be owing to a modification of the circulation in the parts by

the plate.

Dr. RICHARDSON explained his method of filling teeth over exposed nerves, or where there is a lamina of softened bone protecting the nerve. In the latter case, fills with osteoplasty temporarily, then removes the filling and fills with gold. In the former case (of exposed nerves), leaves a portion of the osteoplasty covering the nerve, and then fills the remainder of the cavity with gold.

Dr. TAYLOR'S paper, on the "Life and Character of Prof. C. A. Harris," not being ready, it was determined to call a

meeting as soon as his paper is prepared.

Subject for discussion at next meeting—"Extraction of Deciduous Teeth."

Adjourned to meet on the second Tuesday of January, 1861.

T. F. DAVENPORT, Sec'y.

## Correspondence.

[The following letters, which we take the liberty of publishing, from the pen of Dr. I. J. Greenwood, of New York, contain many particulars and items of interest in regard to the early history of the profession in the United States. These go as far back as to the time of his grandfather, Horace Greenwood, of Boston, Massachusetts—as early as 1750.

These letters give us some idea of what dentistry was in those days, and how it progressed—how it moved on step by step. The first of these letters was elicited by our inquiry of Dr. Greenwood, as to who was the first that used and introduced to the profession plaster of Paris models for forming plates and fitting teeth. This has been clearly answered, as well as many other points of which we were ignorant, and about which we feel much interest.

There is a biographical sketch of Mr. John Greenwood published in the first volume of the American Journal of Dental Science. It, however, has reference to him more in other particulars than as a dentist. These letters will repay the most careful perusal.—Ed.]

NEW YORK, November 3, 1860.

Dr. Taft.—Dear Sir:

In a letter received from you to me under date of October 27, 1860, you request me to inform you of the first use of

plaster of Paris models for the forming of plates to the same to receive artificial teeth, as far as I am informed.

My grandfather, Isaac Greenwood, of Boston, Massachusetts, practiced the making of artificial teeth there many years previous to the Revolution, but from what I can gain as to information, he never used plaster of Paris to make models of, for either plate or bone work; he made his teeth out of the sea-horse tooth (hippopotamus), and used merely a beese-wax mould, as did my father, John Greenwood, who practiced in New York from 1790 to 1820. He was the particular dentist of General George Washington, as expressed in a letter from him to my father, dated Mount Vernon, 6th January, 1799, thus: "If you should remove to Connecticut, I should be glad to be advised of it and to what place, as I shall always prefer your services to that of any other in the line of your present profession."

There is a pair of false jaws with human teeth on, now in the head of President Washington, "in his tomb at Mount Vernon," made by my father, John Greenwood, in 1799, and they were made with bone gums-I think of the elephant's tooth "ivory," and made from moulds of beeswax. brother, Mr. Clarke Greenwood, deceased, and myself did not use plaster of Paris until about 1820, and I think it was through my own suggestion. "We hardened them by dipping the plaster moulds into boiled linseed oil, and let them dry." Before that time white and yellow bees wax was much in use for plate and bone work, even for half and whole sets of teeth. I never had a set returned to me on account of the fit. And I think I was the first in New York who set natural human teeth upon bone gums and colored the gums to life, after those made for General George Washington by my father in 1799. I was the first, about the year 1823, to use the steel burr in a lathe which I invented, and had made for me in New York, by a Mr. Morgan, a Scotchman, for excavating the cavity for the gums to rest in, in parts of, and whole sets of teeth. And I claim

the first use and discovery of wooden pivots, to be used in bone or mineral teeth. And the first mineral teeth seen by me were brought to the country by Colonel Aaron Burr, whose dentist my father was, and presented to him by the Colonel. They were shaped thus, with platina pivots at-



tached, taken and imbedded in the material, to solder them to plates, etc. The first I ever saw in New York and made in the United States, were

made after the same plan, but thicker, thus: In the first years of my practice metallic pivots to teeth were used, and screwed into the material



of bone or human teeth (or sea-horse, sheep or oxen), and cotton was wrapped round the metal pivots to keep them in the sockets of the roots, which, when decomposed, would give an offensive odor; and with me it was a great point to endeavor to find a remedy to prevent these bad effects, and to keep the teeth sweet and clean as possible, which I soon was enabled to remedy, thus.

About 1825, I was operating to fasten a single tooth for an English gentleman, the root of which had been "bushed" with bass wood or soft maple, to enable the pivot of gold to retain its place firmly, for which, after being well fitted to the cavity of the root, the wooden plug had been perforated that the gold pivot might rest in it firmly, thus.

Root.
Plug,
Pivot.

Finding that the wood answered the purpose well, and that very little odor or smell arose from the wooden plug; the idea suggested itself to me that wood might be a proper medium to use for pivots to teeth instead of metal, and if I could

procure a wood that would answer my purpose, I should have gained the point desired. After considering, I concluded to use hickory wood, well seasoned and dried, and straight grained (white part), and I had the good fortune to procure some straight grained white, which had been used by a baker in the making of bread, some ten years in use (the same as spokes of wheels are made of and ax handles); fiber straight,

long and tough. I got this from a cartwright or wagon-maker, and it lasted me all the time I followed the profession until I retired in 1841. The way I used it was thus: I first prepared the tooth to fit the place or arch of the root on which it was to rest, as seen by the following illustration:

Root and Gum.

Toot and Pivot. Having fitted the tooth with a pivot made of softer wood, good white or Georgian pine, straight grained, I prepared my proper pivot of hickory thus: The drill which made the cavity for the pivot in the tooth was made to

suit with the cavity in a draw-plate, through which I passed the hickory pivot, having first cut it with a knife and filed it to suit the hole in the draw-plate. I then drew it the same size to fit the hole in the tooth, then, with a hand-drill of the same dimensions as the pivot, I made the hole to correspond with that in the root; and when the tooth was finished and ready to receive the hickory pivot, I fastened the same in the tooth, and cut it off somewhat less than the depth of the hole in the root and then pressed it up into the root of the tooth, where, if well adapted, it was almost impossible to pull it out. For the purpose of steadying the tooth and pressing it up with the pivots attached to it, I made an instrument

thus, of hickory, to be used in this manner.

The instrument caught the end of the tooth (in the crotchet) and the other end resting on the palm of the hand, I pressed the pivot with the tooth attached into the root cavity, and, if well adapted, it always answered well. Indeed they answered so well that I was often forced, when they broke off from friction wearing the wooden pivot off, to redrill the cavity, with the end of the pivot in it, out again, to replace

it by another wooden pivot. After this, except in extraordinary cases, I never used metallic pivots for single teeth, and the mouth was sweet and clean by those who were careful to brush their teeth regularly.

My father was the first to use the "foot-drill," and he made it himself from an old spinning-wheel of my grand-mother's; and, since his death, I myself used it, the same one, altogether in my practice for twenty years, and have it yet. I never had seen one before, and I know the hand bow-drill was always used before. I never used the hand bow-drill to perforate the roots of teeth for pivots, etc., nor in any way, but a drill instrument with a spear-shaped point, gauged for the depth of the pivot, to drill the roots to receive the wooden or metallic pivot. But to make the hole to receive the pivot in the tooth, I always used the foot-drill. And in drilling pieces of bone or ivory, I could, with the drill made of the finest needles, meet the drill-hole an inch apart.

The drill for the lole for *pivot* of wood in the false tooth and for the hole in the root, should fit exact with the hole in the draw plate you drive the pivot of wood through.

I was the first dentist who had mineral teeth prepared with holes in them to receive wooden pivots.

Hoping the above may prove of use to you, I am, dear sir, Yours, respectfully,

ISAAC JOHN GREENWOOD, D. D. S.

NEW YORK, November 14, 1860.

DR. J. TAFT .- Dear Sir;

In your letter to me under date of the 9th of November, you request me to give you some information of the early history of dentistry in the United States; and how far my relations were concerned before myself in the profession; and in what manner they gained their information relative to the science? From what I have been enabled to gather from my father and my relatives, all I can inform you of is, that my grandfather, Isaac Greenwood, who was born and lived at Boston, and was the first practitioner in dentistry in the family (if it may be called practicing dentistry), was

the remaining son of Isaac Greenwood, of Boston, Professor of Natural Philosophy and Mathematics in Harvard College, Cambridge, Massachusetts; and he was the only son who studied mathematics as his future occupation and practice, to the end that he might be a mathematical instrument maker, etc. He was, about the year 1750, a mathematical instrument maker, and ivory and wood turner, umbrella manufacturer and dentist. He followed all these professions at the same time, and made the first electrical machine for Benjamin Franklin; my uncle Isaac told me so, and he was apprentice with his father and eldest son.

Where my grandfather procured his information in dentistry, it is impossible for me to say, and I presume his practice was confined to the mechanical portion; although in his portrait (large as life), taken some time after this, he is depicted with his left hand and arm resting upon an open volume of Hunter's Treatise upon the Human Teeth, which portrait and the treatise I have in my possession. The specimens of the teeth then made by him are very rude, imperfect and ill-shaped, merely a piece of sea-horse tooth formed to suit the space to be filled up, where the natural teeth were wanting, and a separation or slit made with a file (the enamel of the piece of sea-horse being ground white on a grindstone). with no manner of an attempt at formation or imitation of natural teeth. They were not, in some instances, arched on the top, and were fastened on with thread or wire, silver or gold.

I never saw springs, flat or spiral, used or having been used, until my father, John Greenwood, used them in his practice, which commenced eleven years before I was born, 1795, and about the year 1784, in New York city.

My grandfather, Isaac Greenwood, had four sons and one daughter. The sons were named, Isaac, John, William Pitt and Clark, and what information they gained they procured from their father at Boston and in his shop, as they were all with him there employed. Being with him in his occupation

at Boston, what information they gained in dentistry they got from him in his practice I presume.

Isaac Greenwood, my eldest uncle, practiced dentistry in all its branches, and was an excellent mechanical dentist, in Providence, Rhode Island, many years, until he came to New York. He likewise kept a hardware store, etc., there. second son was my father, John Greenwood, the accepted and private dentist of General George Washington. never gained much information of the art of dentistry. studied or was an apprentice with his father's brother, John Greenwood, who lived at Portland, State of Maine now. was a cabinet maker, merchant and ship-owner there. brick house there was the only one uninjured when the British fired upon the town in the Revolution, and it stood upon the present site of the White Marble Hotel, not yet finished, on the Main street, now in Portland, which was built thus far in expectation of the Great Eastern stopping at that place, etc.

My father never gained much information of the art, as he joined the Revolutionary army at fourteen years of age, previous to the battle of Lexington, and was at the battle of Bunker's Hill, etc. But after the peace he practiced as a mathematical instrument maker, and quit that business to follow that, to him, more profitable, mechanical and surgical dentistry, etc, which he followed until his death.

The third son, William Pitt Greenwood, was instructed by his father at Boston. He was a perfect master of the profession, and died wealthy from the practice of it at Boston.

The fourth and youngest son learned the profession of his father, but never practiced in New York city any further than to supply those deficiencies which his own particular case might require. He was a very neat workman, and was a mathematical instrument maker in Front street, city of New York, near the Tontine Coffee-house.

The daughter's son, Mr. George Henry Gay, of Dedham,

Massachusetts, studied for a doctor and surgeon, and for a dentist, both surgeon and mechanical, in Boston, where he acquired a great reputation in the practice of dentistry, and particularly in repairing and replacing palatial deformities. All the above named persons are now dead.

My uncle, William Pitt Greenwood, and my cousin, George Henry Gay, M. D., were both well conversant with the inserting of mineral teeth, and manufactured them in their prac-

tice in Boston.

Two years before the practice of my father in New York. the following advertisement occurs in Rivington's Royal Gazette, of New York, for August 24th, 28th and 31st, 1782: "Teeth.—Any person who is willing to dispose of his front teeth, may hear of a purchaser by applying to No. 28 Maiden Lane, for which a generous price will be given.

"N. B. Four guineas will be given for every tooth."

The above teeth were, no doubt, required to be replanted into the cavities of the alveolar process, to take root there and supply the loss of the ones to be eradicated for the

operation.

I have in my possession a skull with an under jaw, left side bicuspides, which has been *inserted* or engrafted in this way and taken root, or attached itself to the process. This skull was brought from Paris by my father, John Greenwood, about 1806, where he went to procure a keg of natural human teeth.

That dentistry was practiced prior to the Revolution in the Provinces of America, we learn from the following. The Constitutional Gazette of April 24th, 1776, Boston, after stating that the body of General Joseph Warren had been re-interred at Boston on the 8th, states: "The General's remains were found on the fourth instant, about three feet under ground, on Bunker Hill. They were known by two artificial teeth, fastened by gold wire," etc.

If the above information can be pleasing to you, or as in-

formation to any one in the profession, you can make what use you please of it, as you may depend upon anything which I write you upon the subject, as far as I am informed.

With respect, I am, dear sir, yours, etc.,

ISAAC J. GREENWOOD,

No. 142 West 14th street, City of New York.

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MESSRS. EDITORS:—I have but little to communicate at this time; nothing of special interest occurring here just now worth noting.

The class in attendance at the dental school here is the largest they have ever had, numbering between sixty-five and seventy. What the extent of the class at Baltimore is I am unable to say, but presume a fair one.

As a collateral matter I give you a specimen of the inflated estimate they place upon their manufactures in New York, and which possibly indicates the manner of estimating their population as well as manufactures.

In the "Merchants' and Bankers' Register" for 1860, which gives the State (New York) census for 1855, I find under the head of King's county, Brooklyn, the following: "Dentists' gold manufacturers, one establishment, employing two hands, with two hundred and fifty dollars' worth of machinery, and consuming ten thousand dollars worth of raw material, produces one hundred thousand dollars' worth of manufactured articles."

This is surely a very remarkable business. See, the labor of two hands, with the consumption of ten thousand dollars, make one hundred thousand dollars product.

Brooklyn is evidently the place for dentists' gold manufacturers to make money, and render their capital and labor largely remunerative; but unfortunately these figures can not be relied upon, for they carry their refutation upon their face.

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The last (October) number of the Baltimore Journal is a good one, especially in the variety of the contents, and shows the work of a new or fresh hand in this, in its management, as well in the apparent forgetfulness or ignorance of the current dental periodical literature of the day, as is evidenced by translating and publishing, from a German periodical, an article which originated in our own language, and in one of our dental journals, months ago; but this journal always had a mania for translations, many of which were greatly dignified thereby, and in some instances the language in which they appeared constituted their sole merit. But as I have already said, the number is a good one and exhibits a degree of vitality and sprightliness, which, if kept up, will entitle it to the claim of a live journal. A little less allopathy (which seems to require constant defense and a persistent abuse of all other systems) and more dentistry, would be a decided improvement in its pages, and be more in keeping with its title. It has no more earnest friend and well wisher than the writer, not only because of the good it has done but for the good it may still do, if it but keep pace with the progress of the profession. Yours, etc., O. U. C.

Philadelphia, December 22, 1860.

The Executive Committee of the Kentucky State Dental Assocition has selected the subjoined list of subjects for discussion at the ensuing annual meeting to be held in the city of Louisville, on the second Tuesday of April, 1861.

1. Treatment of Temporary Teeth.

2. Causes of Caries and Prophylactic Treatment.

3. Filling Teeth.

4. Extraction of Teeth.

5. Tobacco-its Effects upon the Health of the Mouth.

6. Artificial Denture.

7. Miscellaneous.

The committee would suggest to members of the profession designing to attend the meeting of the Association, the propriety of their coming prepared to illustrate either, by drawings or with instruments, anything new or peculiar in their practice.

J. W. GRANT, Chairman.

# Selections.

From the New York Dental Journal.

THE HARRIS TESTIMONIAL FUND.—Pursuant to a call, a meeting of the Dentists of New York and vicinity, took place at the rooms of Messrs. Jones & White, (which were kindly offered for the occasion,) on Monday evening, Oct. 8th, at 8 o'clock.

On motion of Dr. John Allen, Dr. Eleazar Parmly was called to the chair, and Dr. Solyman Brown appointed Secretary; when the Chairman proceeded to make the following remarks in reference to the sad occasion that had called them

together:

"Gentlemen of the Dental Profession:—I am glad to see so large a number brought together on this occasion, and, permit me, first, to thank you for the honor you have done me, and for your friendly consideration in selecting me to preside at this meeting. There is, perhaps, no one present who has had the same opportunity of knowing the deceased that I have had. My long acquaintance with Dr. Harris in the societies to which we belonged, and my more intimate connection with him in the Baltimore College of Dental Surgery, while I held the office of Provost in that institution, enable me to say, with truth, that I have never known a man of more generous impulses or more genial feelings, than he whose death has awakened our sympathies, and brought so many of the professional brethren together to express their high respect for his professional character, their admiration of his attainments, and their exalted esteem for his moral, social and personal worth.

As one to whom he was long known and endeared by the many virtues that adorned his character, I trust it will not be deemed unbecoming in me to give this testimony concerning one who has labored more arduously as a practitioner, more untiringly as a writer, and more devotedly as a teacher of the Principles and Practice of Dental Surgery, than any person who has in any way, or in any country, ever

been connected with our professional art.

In his domestic relations, Dr. Harris was exceedingly hap-

py. His home was one of the most hospitable and delightful that I have ever known. His house and his heart were always open to all those who approached him with the remotest claim upon his benevolence and bounty with a widely extended philanthrophy."

On motion, the Chair appointed a committee of three to draft a series of resolutions expressive of the feeling of this meeting on the present occasion. Drs. Ambler, Brown and

Foster were appointed.

While the committee was absent, the Chair suggested that the gentlemen present should all sign the original call for the meeting, and remarked that there were already more names appended to it than there were dentists in the United States when he first commenced practice, in 1815.

The committee returned and reported a Preamble and Resolutions. On motion, the report was accepted by the meeting,

and the committee dismissed.

On motion, the meeting proceeded to take up the resolutions seriatim, and Nos. 1, 2, 3, and 4 were adopted without dissent. Considerable debate followed the reading of the fifth resolution, and various suggestions and amendments were offered by different gentlemen present. The resolution amended by Dr. Rich, so as to change the number of the committee from twenty to three, was finally adopted by the meeting. The other resolutions were then read and adopted, when, on motion, the report as amended was adopted as a whole, as follows:

#### PREAMBLE.

Every distinct profession in human society has its leading members, men of energy, talent and eminence. This is as true of the Dental profession as of any other, and not less true in America than in other quarters of the globe.

The names of Greenwood, Wooffendale, Gardette, Hayden, Flagg, Hudson, Koeckor, and Randall, among others that have left their sublunary labors, are evidences of this fact.

It has become our melancholy duty, in pursuance of the objects of this meeting, to add another name to this catalogue mere highly distinguished than any of his predecessors, for numerous and valuable contributions to the science and literature of his profession, as well by his writings as by personal inculcations as a teacher at the head of the oldest, and for a long period, the only Dental College in the world.

Chapin A. Harris has gone to his rest. On Sunday, the 30th of the last month he fell asleep to awake in an endless Sabbath. His family, his profession, and his country are left to mourn his loss. We, therefore, offer to this meeting, composed of some of his professional brethren, the following

#### RESOLUTIONS.

Resolved, First, That in the death of Dr. C. A. Harris, removed from his early labors in the prime of manhood; from his family in the fervor of affection; and from his country in the ardor of usefulness; we recognize a sad bereavement, which the members of the Dental profession in all civilized

lands have just occasion to deplore.

Resolved, Second, That the labors of Dr. Harris, in assisting to establish the American Journal of Dental Science, the American Society of Dental Surgeons, and Baltimore College of Dental Surgery, as well as in the construction and publication of his Dictionary of Medicine and Dentistry, and his Principle's and Practice of Dental Surgery, have conferred favors on his profession which gratitude can never repay, because these and other labors in the same direction, have broken his health, abridged his life, and gathered his friends and family around his early grave.

Resolved, Third, That a committee of three be appointed by this meeting, to convey to the family of the departed, the sympathy of its members, on occasion of their great and irre-

eparable loss.

Resolved, Fourth, That, in view of the great and important services which the self-denying labors of Dr. Harris have rendered to the Dental profession, a suitable testimonial be presented to the family of the deceased, by such members of the profession as may choose to contribute to that object.

Resolved, Fifth, That a committee of three be appointed by this meeting to invite all dentists to unite with us in subscribing to raise a money testimonial, to be presented to the widow of the late Dr. Harris, and that this committee have power to appoint sub-committees in Europe and America, to carry out the above object.

Resolved, Sixth, That the said committee be instructed to give ample notice of the purpose above explained, not only in all the Dental Journals, but also by means of a printed circular forwarded by mail to all the dentists in the United States, appointing the time for the presentation of said testi-

monial to the family, and determining the manner in which

the fund shall be appropriated to its object.

Resolved, Seventh, That the committee hereby authorized to receive and appropriate the contributions made for the benefit of the "Harris Testimonial Fund," shall be instructed to use no part of said fund for any expenses except for printing and mailing the circulars, and letters sent to members of the Harris family.

Resolved, Eighth, That this meeting hereby requests all editors of Dental periodicals to publish the proceedings of this meeting, together with the circular issued by the committee,

free of charge.

SOLYMAN BROWN,
JOHN G. AMBLER,
J. H. FOSTER,

Committee
on
Resolutions.

On motion, the committee of three mentioned in the fifth resolution, was appointed, consisting of Drs. Eleazar Parmly, Solyman Brown, and E. J. Dunning. On motion, a committee was appointed to transmit the resolutions adopted by this meeting to the family of the deceased, Dr. Harris. The officers of the meeting, assisted by Dr. Foster, were appointed a committee. A resolution of thanks was then voted to the officers of the meeting, and briefly responded to by the Chair, after which the meeting adjourned.

During the proceedings, Drs. Parmly, Rich, Allen, Hill, Gunning, Roberts, Clarke, Castle, Franklin, Burrows, and others, took occasion to express their sympathies with the occasion which had called them together, and their deep appreciation of the worth of the late Dr. Harris and his labors. The meeting was well attended, some fifty of the most prominent members of the profession in New York being pres-

ent.

The earnest zeal manifested at this meeting, leaves no room to doubt that a hearty and liberal response will be made to the printed circular of the committee, which will be forwarded in a few days to all the dentists whose address can be obtained, in both hemispheres.

We say in advance to our readers, let the "Harris Testimonial Fund" be such as to fill with joy the heart of the

widow and orphans.

At a meeting of the New York Society of Dental Surgeons, held on Wednesday, October 10, the following resolu-

tions were presented by a committee, which had been appointed

for that purpose.

Whereas, We have learned with the sincerest sorrow, that Professor Chapin A. Harris, of Baltimore, has been stricken down in the midst of his labors, and that the Dental Profession and the civilized world have thus been deprived by death of one of the most devoted and successful pioneers in the cause of science and humanity; and

Whereas, We can not allow the death of this great and good man to pass, without endeavoring to give utterance to those feelings which should prevail in the hearts of all men, when one of wisest and most useful of their counselors are

taken from their services forever; and

Whereas, This sad event has been suitably noticed elsewhere by the whole body of dentists of this city, and will undoubtedly be noticed by the profession throughout the whole coun-

try and Europe; therefore,

Resolved, That it only remains for us to say, that we will gladly co-operate with our brethren in any way which may be decided upon, to pay a proper tribute of respect and grattitude to the memory of the late highly distinguished Prof. Chapin A. Harris, of Baltimore.

(Signed,)

A. McIlroy, Pres. E. C. Rushmore, Nec.

From the Boston Medical and Surgical Journal.

NEW APPLICATION OF CHLOROFORM IN NEURALGIA AND IN CERTAIN RHEUMATIC COMPLAINTS.—[At a meeting of the Medico-Chirurgical Society of Edinburgh, Mr. Little, R. F. C. S. E., of Singapore made the following communication, which we reprint from the Edinburgh Medical Journal, for

April, 1860.—Eds.

During my residence at Singapore, East Indies, I was at one time in the habit of using liquor ammonia to produce an immediate blister when instantaneous counter-irritation was thought necessary in certain cerebral affections, &c.—a piece of lint soaked in ammonia being applied to the part, and covered with oil-silk, when in a few minutes so much irritation was produced as to raise a blister. In a ministering chloroform to my patients, I noticed that their lips were often partially blistered by it; and recollecting the mode of using the

ammonia, I thought of trying the chloroform in the same way, but found that neither oil-silk nor gutta percha tissue would answer. I then used a watched-glass to cover the lint soak-

ed in it, and with the best effect.

The manner of application is to take a piece of lint, a little less in size than the watch-glass to be used, (which need not be more than two inches in diameter,) to put it on the hollow side of the glass, to pour on it a few drops of chloroform sufficient to saturate it, and then to apply at once to the part affected, keeping the edges of the glass closely applied to the skin by covering it with the hand, for the purpose of keeping it in position, as well as of assisting the evaporation of the chloroform. This may be done from five to ten minutes, according to the amount of irritation wished for.

The patient during this time will complain of the gradual increase of a burning sensation (not so severe as that produced by a mustard sinapism,) which reaches its height in five minutes, and then abates, but does not entirely disappear for

more than ten minutes.

To insure the full operation of the remedy, it is necessary that the watch-glass be rather concave, that it be closely applied to the skin, and that the hand applied over it be sensibly warm. The immediate effect of the application is to remove all local pain in neuralgia, and relieve that of rheumatism.

Its effects on the skin are at first a reddening of the cutis, which in some cases is followed by desquamation of the cuticle; but this depends on the part to which it is applied, and also upon the susceptibility of the individual. In some cases, if the application is prolonged, a dark brown stain remains even for a week or ten days, the same effect as sometimes follows the use of a mustard sinapism.

In Singapore I have used chloroform after this fashion in various neuralgias of the face, in inflammations of the eye and ear, in one case of angina pectoris, in several cases of neuralgia affecting the abdominal parietes, in lumbago, dysmonorrhea, and in pain attending congestion of the ova-

ry, &с.

Personally I can testify to its great efficacy in two severe attacks of rheumatic inflammation of the eyes, in which the pain came on periodically about 3, A. M., with such severity that I thought the loss of sight itself would be preferable to its continuance. All other remedies, such as blisters,

leeches, opium externally and internally, belladonna, &c., were of no avail in soothing the pain; water, almost boiling, applied by a sponge, giving only a little relief. I then thought of this use of chloroform, remembering how much it had benefited my patients in other similar affections. The first night the application of it to the temple relieved the pain in ten minutes; and on its return the next night, the application again relieved it; and four times only was it required to remove completely the local pain; allowing, in the meantime, constitutional remedies to produce their effect. Since my return to this country, I have recommended this remedy on several occasions to persons suffering from neuralgia of the face and head, and always with the same good effect as in India; and the other evening one of my domestics was quickly and effectually relieved by it of a painful spasmodic contraction of the platysma myoides muscle, which prevented her raising her head from the chest. The chloroform was applied as directed, with immediate benefit, and next morning she was quite well, though in previous attacks several days elapsed before relieve was obtained. I have mentioned this method to several medical men of this city, who have found it of great benefit; and that it may be more extensively known, is my reason for now bringing it before the profession.

Dr. Keiller mentioned that this plan had been tried with success in his wards.

Dr. Wright has used chloroform for similar purposes, by pouring it into a bottle containing blottling-paper, and applying it over the affected painful part. He has found it sometimes produce vesication, and leave a mark on the skin; but it had been effectual in removing pain.

[Mr. Little has received the following letter from Dr. Sclanders, House Physician to Dr. Keiller in the Royal Infirmary:

# ROYAL INFIRMARY, March 14, 1860.

My Dear Sir-I have much pleasure in giving you the result of my experience in regard to the external application of chloroform, in the way proposed by you. Soon after you made me aware of it, I saw a friend of mine, who suffered frequently from neuralgia of the left forehead. I proposed the remedy to him, and with effect of immediately removing

the pain. Owing to my having kept it too long applied vesication ensued. Since then he has had no return.

I have since used it in several cases of neuralgia of the ovary and pleurodynia, as also in two cases of rheumatic pains in the joints, with marked benefit.

I am, yours truly,

Dr. LITTLE.]

ALEX. SCLANDERS.

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Uncleanly By Geo. S. Fouke.—Notwithstanding it may be regarded a little in the light of a pathological extravaganza—that Parmelian saying, viz: that "when teeth are kept literally clean, no disease will ever be perceptible," yet it must be acknowledged that structures so "simple, yet effective," as the teeth, can "be made subject to disease by no slight causes, independent of those which result from accidental machanical injury."

tal mechanical injury."

Uncleanliness is reckoned amongst the first of all external or local causes of caries. Hence, it is really a serious question our patients often ask us-"Doctor, how shall I keep my teeth clean?" It is a question the profession should reply to with earnest particularity; for, simple as it is—a "literally clean" tooth—it is not a thing entirely undivested of difficulty and some misapprehension, and the practical realization of clean teeth, in immaculate maxillaries, seems to be of less easy accomplishment than the task of keeping our masticators "fastidiously" clean, in the imagination, which may be unfortunately filled with erroneous or very fanciful "early impressions" upon the important subject of attention to dental cleanliness. The subject of brushing teeth has received some attention in our journals lately, and some timely practical hints given in the Dental Cosmos renders it unnecessary to say much either for professional or popular enlightenment, as to how people should clean their teeth. The matter is getting to be understood. However, a few thoughts upon this subject may not be out of place in the Examiner. Now, it is the consentient voice of every dental practitioner, that cleanliness is a most effective prophylactic against caries, and that its reverse, viz., a want of cleanliness, is the great barrier to permanency of success in operative denistry. Much skillful, solid work of the operative dentist, is being constanly undone by the insidious yet powerful effect, not of positive, disgusting

uncleanliness, but of a faulty or defective hygiene. It is a dental truth that should be inculcated on all hands, that scrupulous attention to cleansing the teeth is more important after operation are performed, than before. No extraneous matters should be allowed to remain on surfaces which have been recently filed, or where cavities have been plugged. Faultiness or defectiveness of dental cleanliness, may readily exist even where there is no little hard or vigorous rubbing of the teeth, and it is this want of literal cleanliness, that the observing practitioner recognizes as the undoer, very often, of his best operations and the powerful destroyer of many teeth upon which he expended much skill and labor to save from threatened dissolution.

To those persons who tell us "they brush their teeth from three to five times every day, using powders twice, and balm of a thousand flowers three times, and still they can not keep their teeth clean "-as well as to those who tell us "they brush hard and use the hardest brush they can get, and yet can not keep the tartar off," we would say, "stop that brushing" for awhile, and learn a little practical knowledge of the wants of your "ivory-tessellated halls." You need some theory and some anatomical ideas respecting the external structure of your teeth; respecting the position and arrangement of teeth in your jaws; respecting the dangerous and assailable points of the different classes of the dental organs. Examine your teeth once! Look at them in the places where nature has put them, and a brief study of their forms and localities will give you such a lesson of their simple, yet essential wants, that you will soon become intelligent and not "excessive tooth-brushers," effective and not "fastidious" tooth-This lesson all must learn: first, that cleanliness is wanted on the crowns of the "jaw teeth," i. e., on the grinding surfaces of the molars and bicuspids. The masticatory surfaces of these teeth, have fissures or indentations in them, more or less deep, where the enamel meets, as it were, in irregular folds. These are dangerous points. Here decay commences. These sulci must be kept clean. If the fissures are naturally deep, and there exists a carious chachexia or tendency to the development of caries, it will be hard to keep these places clean, and the best thing is to get some dentist to excavate these uncleansible cavities, and fill them up solidly with gold. These points once well filled up with gold, there will then be no use for excessive brushing on the grinding sur-

faces of the "jaw teeth"—the friction of chewing will keep these parts of the teeth literally clean. The second point in the lesson to be learned, is this: that cleanliness is essential on all the lateral or side surfaces of the teeth. No extraneous matters, whatever, must be suffered to accumulate in the interstices between the front or the back teeth. These intermediary localities are assailable points, where decay is very liable to commence its ravages. The liability is greatest where the contact of the teeth is greatest, and where effective cleanliness is hindered, or rendered impracticable, perhaps, in consequence of irregular arrangement and over-crowdedness of the organs. It may be necessary in order to get the side surfaces of the entire denture in a condition to allow of keep. ing these points clean, to submit the denture to the care of the dental practitioner, who will institute hygienical treatment which may result in placing all the intermediary or lateral localities in a perfectly cleansible condition. The third item in the dental knowledge, essential to be known by all who would keep their teeth clean is this: the teeth all have "necks." The crowns of the teeth are all arched with beautiful festoons of rosy gum. Just around these festoons, and "a little under the margin of the gum" is the cervex or neck of the tooth. The neck of a tooth is the part, which, most of all, needs to be kept scrupulously pure and cleanly. This is the point the dentist dreads! A decay at the neck of a tooth, anywhere in or under the circumferential margin of the gum, is difficult to arrest under the most favorable circumstances. But when inattention to thorough cleaning at this point becomes habitual, the loss of the affected tooth is well nigh inevitable. Attention to the cervical regions of each tooth is, therefore, an indespensible requisite to perfect dental cleanli-

The teeth, then, need careful, and not "excessive" hygienic regulations. The gums were not made to be "cut through" or torn to pieces by hard brushes and harder rubbing. The super-enamel was not formed to be "worn out" by super-human efforts to keep the tooth clean. The "parencymatous" gum, and the "adamantine" cortex striatus will bear a great deal of good, vigorous, if not rigorous rubbing, to the contrary, notwithstanding. A recorded instance of this fact may be produced. "Geo. Waite, Esq., Surgeon Dentist," relates his own experience as a hard-rubber, in the following passage from his "Critical Inquiry:"

"For the last ten years of my life, I have, perhaps, brushed my teeth and gums harder than any person in England. I may say that I have endeavored to rub them away, but in vain; I have sometimes gone so far as to make them sore, but the result I find is this, that the soreness heals in an almost incredible manner, that the next morning there is a somewhat cartilaginous deposit on them, exuded from the openings of vessels on their surface, sometimes perceptible to the eye, and that when healed there is an increase rather than a decrease."

Such rigorous rubbing as this is not essential to dental cleanliness, by any means, yet we are decidedly of the opinion of this dental physiologist, that "nothing is more adapted to giving the teeth and gums strength and a healthy appear-

ance than repeated friction."

We will close this paper with one word about "dentrifices." We never had much faith in dentrifices. We quit their use years ago, and confine ourselves to some suitable "Deutalina" or tooth-wash. We supply our dental friends with a wash which is more suitable to the wants of the teeth and gums than any powders we know of. We have seen that it is on the necks of teeth, and little under the margin of the gum, where cleanliness is most needed and the most difficult to be effected. A wash will reach these localities better than powders. But the objection to dentrifices is this. To have any possible advantage over a wash, a dentrifice must possess a more or less active mechanical property. Any such qualiities in a dentrifice are "improper." Whether you rub much or whether you rub moderately, yet a long continued use of a dentrifice is almost sure to "produce," as says Dr. Richardson, "mechanical erosion and inevitable destruction."—Southern Dental Register.

WESTMINSTER, Md.

FERMENTATION OF MILK IN THE MAMMÆ.—At the last meeting of the British Association for the advancement of science, in the section of Physiolgy, Dr. Gibbs, as appears from the proceedings published in the Lancet, read a paper on the saccharine fermentation within the female breast, and its influence on the child. He showed that from various causes of a constitutional nature, in which the nervous sys-

stem played an important part, the saccharine element of the milk underwent fermentation at the moment of its secretion, and gave rise to the generation of two species of animalcules, namely, vibriones and monads. The milk containing these was usually rich in sugar, but, owing to the fact of its having undergone fermentation within the gland itself, its healthy character was destroyed, and it was not therefore capable of assimilation within the stomach of the infant, as evidenced by the most extreme degree of emaciation-in fact, the child was undergoing starvation. The animalcules were developed within the breasts. The author had proved the correctness of his views in a series of experiments and researches into this question since 1854. In the discussion which ensued, much credit was given to the author for his labors in this novel field of inquiry; and numerous questions were put to him in relation to the condition of the blood and other fluids, in such conditions as he had described.

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ON THE MEANS TO BE EMPLOYED IN SYNCOPE FROM HEM-ORRHAGE AFTER SURGICAL OPERATIONS.—M. Debout, editor of the Bulletin de Thérapeutique, has published in a late number of that periodical, a valuable article wherein he shows by facts and arguments, that this syncope is not to be treated like the fainting which occurs after parturient hemorrhage. M. Debout concludes with the following rules:

1. Syncope following traumatic hemorrhage is a more serious symptom than the fainting resulting from uterine hemorrhage, both on account of the nature of the blood lost and its less rapid escape; it may, therefore, be affirmed, that the means found successful in the latter complication are not, as

a consequence, likely to be efficient in the former.

2. As syncope, in traumatic hemorrhage, is the result of want of stimulus to the nervous centers, the remedy will consist in putting the patient upon his back, and in lessening the

extent of the circulation by abdominal pressure.

3. As we are to be especially anxious for the energy and duration of our therapeutic interference, we should add to the physical action of the means above alluded to the stimulation of the heated steel knob rapidly carried over various parts of the cutaneous surface, and assist this operation by

enemata of wine. This syncope is so perilous that all the above measures combined will never be too powerful.

M. Debout thinks that transfusion of blood, in these cases,

is not to be relied upon.—London Lancet.

DEATH FROM CHLORGFORM.—Again we have to record a case of death from chloroform occuring in Bellvue Hospital, in New York, during a surgical operation, and offering another forcible plea for the abandonment of chloroform and the substitution of *ether* in surgical practice, except in cases where ether has been tried and found to be incapable of producing anæsthesia.

In this case, as indeed in many others, the chloroform was administered, so the verdict says, with the utmost caution, yet suddenly the patient gave a few convulsive respirations and immediately expired. All efforts to restore him were

unavailing.

Why should chloroform be continued to be given when its dangers have been so amply and so fearfully demonstrated and when in ether we have an article nearly as certian, although acting a little slower, but known to be attended with far less risk of life? It is true, we know, that it is somewhat more tedious process to produce anæsthesia by ether than by chloroform; yet is there any surgeon's time so valuable that at the risk of his patient's life it must be used in preference to a safer article?

These are the questions which force themselves upon our attention, when again and again we are obliged to refer in our columns to "deaths from chloroform." Let the profession ponder them well —Med. and Sur. Rep.

Chloride of Zinc Moulded into Sticks for the Purpose of Cauterization.—Soften gutta-percha in boiling alcohol, and incorporate it with finely-pulverized chloride of lime, in a warm porcelain mortar, taking equal parts of each. Then roll rapidly on a porphyry slab, to the diameter of a quill, and divide in fragments, each of which shall be pointed at one end. Keep these in a wide-mouthed bottle in powdered lime. These sticks remain perfectly hard, are easily handled, cauterize with great regularity, and act as a sponge through which the chloride will slowly exude, becoming liquid by the action of the air and the skin.—Lancet.

FRACTURE OF THE LOWER JAW.—The importance of the mode of treatment so ably carried out by Mr. James Salter. of Guy's Hospital, as reported in the Lancet, (ante p. 137), for the reduction of impacted fractures of the alveolar arch of the superior maxilla, is well worthy of the careful attention, not only of surgeon-dentists, but general surgeons. The application of such a principle to fractures, is a large extension of the plan of regulating misplaced teeth by elastic metallic pressure, which has been so long in successful At the latter part of Mr. Salter's excellent paper, reference is made, not only to the much greater difficulty of applying mechanical contrivances to the fractured inferior maxilla, but there is a point which is a far more serious undertaking—viz., maintenance of the apparatus in situ comfortably to the patient, until the uniting lymph is firm enough to resist the traction of numerous antagonistic muscles.

The subjoined abridged account of a case read by Mr. James R. Lane to the Western Medical Society, and slightly noticed in the journals of the date, of a compound commuted fracture of the lower jaw, prior to that reported by Mr. Salter, in which the wearing of a metallic socket, fitting the teeth and gums, was not sufficient to maintain the broken ends in exact juxtaposition, on account of the obliquity of the fracture and antagonism of the muscles, perhaps may prove of

value to surgery at some future period:-

John S-, aged thirty-two, was admitted into St. Mary's Hospital, under the care of Mr. James Lane, September, 1858. He had sustained several injuries about the head and neck by a fall from a cart, the wheel of which passed over his head, and fractured the lower jaw at the left of the symphysis, between the central and lateral incisors, obliquely downwards and outwards. The left portion was depressed about three quarters of an inch, and overlapped by the right. A large spiculum of bone on the right side, including two teeth, was also loose; but the fracture here did not extend to the lower margin After the failure of all the contrivances, including Lonsdale's apparatus, Mr. James Lane, hoping to modify Lonsdale's splint, called my attention to it, as the setting of the fracture could not be maintained by any of the apparatuses. With the assistance of others the fracture was reduced, and retained in situ long enough to take a model in beeswax. A silver plate was made to cap and fit the teeth

and the gums before and behind them for a short distance; but I found that this did not keep the fractured ends in accurate apposition, as the spasmodic action of the muscle of the left side of the maxilla gradually jerked up the plate, though it fitted accurately. To meet this difficulty, I soldered to the upper surface of the plate, at each side, a doubly-curved silver rod, each of which projected out of his mouth at the angles, and was tied to a light gutta-percha splint beneath the chin. This placed him in a comparative state of comfort, immediately enabling him to feed himself and articulate without pain.

At the fourth week the splint was removed and the silver rods were cut off. The following week he left the hospital, with the plate in; the "bite" was perfectly accurate, and the position was well maintained by the temporary callus.

I accidentally saw him a few months afterwards; he had worn the plate for two or three weeks immediately on leaving the hospital, and subsequent to that only at night. The line of fracture was not detectable; but one of the teeth, where the supperation of the periosteum had been most extensive, had necrossed and required removal.

[Lancet.] H. HOWARD HAYWARD, M. R. C. S.

NEW METHOD OF PRODUCING LOCAL ANÆSTHESIA.—Mr. Richardson, the dentist, has sent us a communication, in which he says:-"The subject of local anæsthesia has much excited the attention of the profession lately. Dr. Richardson, Mr. Nunneley, and others, have devoted much time and research to it. Narcotics, congelation, inhalation of ether and chloroform, and, lastly, electricity, have all been tried, but from some practical disadvantages in their application, and from the occurrence of dangerous and even fatal effects none of these have met either the wants of the case or the general concurrence of the dental profession. In pursuing a series of experiments for effecting certain improvements in the 'Tooth Protector,' a notice of which apparatus was inserted in the Lancet of 1858, I have devised a plan for causing local anæsthesia during the extraction of teeth without producing a corresponding effect on the system generallyviz: by immersing the affected part in chloroform, and including in the part immersed as much of the adjacent struc-VOL. XV.-4.

tures as may be required. It is obvious that a plan so sim ple must be universally applicable, and should its reputation be maintained, prevent the escape of chloroform, and thus intensify its local effect. The cup is about half filled with cotton wool, which is then saturated with a sufficient quantity of chloroform, generally from ten to fifteen drops. The time within which local insensibility is produced varies from seven minutes to a quarter of an hour. It is true that the local anæsthesia is not, in all cases, equally complete: but even where pain occurs, the remedy will be found to moderate it to a point within which it becomes perfectly tolerable, and has lost the distressing agony of tooth extraction. It is important for the operator to remember, that as insensibility of the part ensues, the cup should be removed, and extraction instantly performed. Of sixty cases, on which the foregoing statements are based, only two occurred in which the remedy failed to mitigate the pain; whilst in ten cases the local insensibility during extraction was complete."—Lancet.

## A PLEA FOR BEARD.

The evidences of human progress are displayed in the reformation of abuses and the avoidance of accustomed errors, as well as in making discoveries, or in striking out new paths in the ways of science. One of these evidences, among the male part of humanity at least, is the avoidance of those extreme caprices of fashion by which the beauty and simplicity of nature is substituted, and the human form disfigured. Men in enlightened nations no longer shave off their own hair and put on their heads the hair of another, and then dust it thickly over with white powder. The waist is no longer laced to an effeminate attenuation, and tinseled trappings and ruffles are seen no more. The distortion and disfigurement of nature is now left to the anthropophagist who tattoos his skin, to the celestial who produces an artificial talipes, and to the savage whose lip, ear, or nose is slit, or whose skull is flattened to his taste by compression.

Society is beginning to think that the designs of nature in the formation of the human body are with an object for our welfare, and most in accordance with true beauty and harmony.

In recent times, a single practice is the only interference

with the evident designs of nature which customs of gentility tolerate. This is one of comparatively modern invention, and as an adopted habit, dates no more remotely than to the coronation of Louis XIII. of France, who ascended the throne at the age of nine years, and in adulation to whose beardless face his courtiers commenced the foppish practice of shaving. Since that time the fashion of closely shaving the face has, like other fashions, been repeatedly abandoned and revived.

A bearded cycle is now upon us. The razor is becoming an obsolete instrument, and much of the barber's "occupation's gone." We can not determine whether this almost universal wearing of beard has been adopted as a mere caprice of fashion, a rational change in taste, a time and laborsaving design suited to a fast age, or as an intelligent appreci-

ciation of its hygienic advantages.

Be it as it may, the practice has been for years gaining among the refined and intelligent classes all over the world, and much in every view of the matter can be claimed for it, while nought but the fogyish partiality for old usages can be argued against it.

The wearing of the entire beard has become general in Europe, and even the English, heretofore the most closely shaven of all nations, has at last adopted the "valanced"

face.

Of beard as a fashion, or of its "formal cut," we are unconcerned, and care not whether the moustache be in imperial loyalty turned up and twisted at its points, or, in the style of the radical, turned obstinately down, but we desire to repeat some ascertained facts in the hygiene of beard.

Dr. Agnew says: "There are many reasons for believing that the beard should not be removed. In cold localities it is an important defense. The skin of the cheek is delicate, and is underlaid by a network of both motor and sensory nerves of the fifth and seventh pairs, which are peculiarly impressible by the influence of low temperature. Almost every one has felt the stiff and paralyzed condition of the face when, unprotected, it has been exposed to the frosty air of a winter day, and also the chattering teeth. Both toothache and neuralgia have been entirely removed by allowing the beard to grow. So in warm situations, it serves as a defense against the irritating effects of the sun's rays, preventing tan, freckles, inflammation and desquamation; thus it is very common to find boatmen, and those employed about the

water, cultivate a luxuriant growth of beard to obviate these inconveniences.

"The moustache is well situated, not only to defend the lip, but to arrest and entangle particles of dust which would

otherwise be drawn into the respiratory passages.

"Mr. Chadwick asserts, that travelers in Syria and Egypt suffer so much from the small particles of sand which fill the air, that they really find it necessary to delay the wilderness journey until their mustaches have grown. To all, therefore, whose occupations expose them to dust, such as threshers, millers, smiths, etc., the preservation of the growth will be useful."

The London Lancet has taken a decided stand in favor of bearded faces; and, in an article censuring a military officer for enforcing the soldiers under his command to shave, makes

the following proper remarks:

"Nature has ordained that the face of a man shall be protected in certain parts by a hairy covering. Be it for use, be it for ornament, or be it for both, there it is in the form of beard, mustaches and whiskers. These constitute as necessary a structural appendage to a man as the mane to the horse and lion, the antlers to a stag, the horns to the ox, or the bristly whiskers to old grimalkin. The growth and perfection of these appendages are closely associated with strength, masculine power and virility, and although often regarded as supplementary organs, they indubitably severally owe their origin to a necessity of the animal frame. With the facial hirsute appendages of man important authorities have fallen out. The former appear worse than useless to them: they are positive nuisances, so let them be abolished! Nature shall be corrected for the mistake she has made by witnessing her best-formed and strongest specimens of humanity rubbed well over with yellow soap every morning, and scraped with a razor. A red, glazy, pimply chin, raw nostrils, hoarse voice, sore throat and feminine or 'lily-livered' appearance, shall henceforth grace the stalwart forms of our policemen and soldiers! We hope that science and common sense will come to the rescue, and not only let soldiers and policemen continue to wear upon their fac s the natural covering they have been given, but induce wheezing, sneezing, sore-throated, shivering mortals, who have hitherto trembled more at the keen edge of a January air or March wind than of a razor, to cease wasting their time at their ridiculous

matutinal operation, and face their fellow-mortals like men. Bichat long ago asserted, that although numerous causes might exist to produce debility of the system in coincidence with the presence of beard, yet the general impression must be that there exists 'uncertain rapport entre elle [la barbe] et les forces.' It is probable, says the great physiologist, that the muscular energy is, up to a certain point, connected with the beard, and that this energy always diminishes a little when a man deprives himself of that appendage. \* \* \* \* The well known traveler, Mr. St. John, says that Walter Savage Landor was a great sufferer from sore throat for many years of his life, and that he lost the morbid disposition only by following the advice of the surgeon of the Grand Duke of Tuscany, viz: to let his beard grow. According to Mr. Chadwick, the sappers and miners of the French army. who are remarkable for the size and beauty of their beards, enjoy a special immunity from bronchial affections. What can be more absurd than to compel men exposed to all kinds of climatorial severities and changes, as are soldiers and policemen, to rub a strong alkali daily upon their faces, and then scrape the latter over with a sharp instrument! \* \* \* \* In our opinion, it would be a far more rational procedure, upon the part of people in authority, to compel those in their power to allow their hair to grow, than to make them shave it off. This much might, at any rate, be said in favor of the one, that it must be for the grower's own benefit, since he followed Nature; while all that could be legitimately adduced to support the other must be, that it pleased the commander's very queer fancy. As regards certain public servants, too. like soldiers and policemen, the right which we have to enforce a particular garb or uniform upon them, and the necessity which exists for so doing, do not extend to tattooing them, nor even to that simpler mutilation—shaving—which is akin to it, seeing that it entails the loss of an important structural appendage bestowed upon them by Nature. 7"

# DEATH FROM CHLOROFORM.

P. C—, aged forty-two years, a tall, stout, muscular Irishman, was admitted, under the care of Mr. Mash, Sept. 1, 1860. He was the subject of a lipoma, about the size of a closed hand, seated in the middle line between the upper

border of the scapulæ. On September 6th he was taken into the operating room for the purpose of having this removed. As the operation was considered neither dangerous nor very painful, he was strongly dissuaded by his surgeon from taking chloroform; but he, nevertheless, expressed an urgent desire that it should be administered. After consultation with Mr. Ashdown, as there seemed on auscultation to be no special contra-indicating circumstances, his wish was acceded to, and the chloroform was accordingly given by Mr. Gray, the house-surgeon. It was administered on a single fold of thin lint, and after three or four minutes' inhalation, the patient became excited and delirious, struggled a good deal, and talked incessantly. In the course of about eight minutes more these symptoms subsided, the face became much congested, and the breathing stertorous. At this time the pulse was full and regular, and the orbicular acted distinctly though rather sluggishly. The administration of chloroform was then wholly suspended, and the patient, being deemed in a fitting state for operation, was turned over on the left side in order to expose the tumor. This position being found inconvenient, a further change was required to adapt the head and shoulders on pillows, so as to expose the tumor effectually, and in the process of effecting this, respiration was observed suddenly to cease. The tongue was immediately drawn forward by artery forceps, cold water freely dashed over the face and chest, and artificial respiration was forthwith commenced by Marshall Hall's Method, aided by forcible compression of thoracic walls. At first the result of these means appeared most satisfactory, three or four deep muscular inspirations and several feebler efforts being made by the patient. The venous system of the face and neck being very turgid, the external jugular of either side was opened, and bled rather freely. Electro-magnetism also was applied as promptly as possible, the artificial respiration being unceasingly continued; but though the measures for restoring animation were continued for an hour, no further indications of vitality were manifested by the patient. No pulse or heart beat was detected after the first suspension of respiration, but the immediate resort to artificial breathing prevented any very deliberate examination of the pulse.

The chloroform seemed quite pure, and the total quantity consumed during the process of inhalation was nearly five drachms and a half. The patient was known to be intemper-

ate, and has since been ascertained to have been an inveterate drinker.

Autopsy twenty-three hours after death.—Externally, the face appeared rather pale than livid (probably as a result of the venesection), and there was no more than usual ecchymosis of the depending portions of the body. The head was first opened. The dura mater was slightly adherent along the course of the longitudinal sinus; the glandulæ Pacchioni were of large size, and there was some subarachnoid effusion; but the membranes themselves appeared healthy. The substance of the brain was firm and natural; the puncta vasculosa were numerous and of a dark venous line. The lateral ventricles contained about two drachms of fluid; and the medulla oblongata and cerebellum, like the brain, were much congested, but presented no other evidences of disease. The lungs were gorged with venous blood, but otherwise healthy; the pleuræ smooth and unadherent. There was no pericardial effusion; the heart was large and flaccid, and there was an unusual accumulation of fat on its outer surface. Its muscular tissue was soft, and the walls of the ventricles, especially the left, were thinner than natural, but not otherwise unhealthy. The right chambers were greatly distended, the left comparatively empty. The blood was quite fluid throughout; the valves, endocardium, and vessels at the base were normal. The heart weighed ten pounds, the aorta and other vessels being cut off close to its base. There was an excessive deposit of fatal external to the abdominal walls, as also in the subperitoneal cellular tissue and throughout the great omentum. The abdominal viscera, like all the other organs, were greatly congested, but exhibited no further indications of disease.—London Lancet.

# PRESSURE AS A PREVENTIVE OF INFLAMMATION.

Dr. Cooper, of the San Francisco Medical Press, makes the following judicious remarks on this subject:

"We have long been in the habit of applying a roller, as tightly as the patient could bear, over the extremities, to prevent inflammation, in cases of operations for pseudarthrosis, exsections of bones, or accidental injuries.

"Not only can compression be relied upon to keep down

inflammation before it is established, but painful parts are

often relieved by it.

"Such is our confidence in the efficacy of pressure in preventing inflammation after injuries, that there are many operations we are constantly performing successfully that would not be attempted at all, were it not that we can anticipate and prevent inflammation by pressure, applied by means of rollers. Its reliability and efficiency render it invaluable.

"How can there be increased redness or swelling without an increase of blood in the parts? And if there is no swelling or flow of blood to the part, the heat and pain will be prevented. So that it is easy to perceive that, by preventing the blood from flowing into the part, we prevent the inflam-

mation.

"Even after inflammation is established, pressure will often be found not only unirritating, when applied to the arterial trunk supplying it, but directly to the part itself."

# Editorial.

### GOLD.

The first article in the present number of the Register, on the treatment of gold, by Prof. Calvert, is good. There are, however, some little points upon which he might have been a little more explicit, or more understandable to the common reader, or those but little acquainted with chemistry.

In the preparation of aqua regia, he says: "Into a florence flask put by weight, nitric acid 38° B 25 parts, and hydrochloric acid 21° B 30 parts." We think the better method for those, who are not adepts in chemistry, is the following: Take nitric and hydrochloric acids, both chemically pure, and by measure, one part of the former and four to six parts of the latter. The less nitric acid employed the better, so it accomplishes the work, which is simply by its presence to liberate the chlorine.

After the gold is dissolved, even though it is a saturated solution, there may be free nitric acid which should be driven off by evaporation; indeed, this is necessary for the most perfect condition of the solution.

He says in regard to precipitation, that the precipitant should be added as long as any precipitate continues to fall. Now, we think it quite as correct a test and more convenient, to add the precipitant till effervescence ceases, then the chlorine has formed its new combination, the gold is then necessarily all free and will be precipitated.

He remarks: "Should the iron be added very rapidly, the probability is, that the deposit will be less heavy." According to our experience, the opposite is true, when the precipitant is added most rapidly the precipitate is most heavy.

The remarks upon the treatment of gold with silver, are very good. The entire article should be carefully studied by all.

T.

### FIFTEENTH VOLUME.

This number begins the fifteenth volume of the Dental Register. This journal, like many kindred things, has passed through several changes and vicissitudes, some of which, at least we hope, have been for the better.

The Register started out a quarterly, the volume containing 227 pages, with good and valuable matter for the times; it extended through eight volumes, varying but little from that size. The ninth was enlarged to 448 pages, and was well filled with interesting and valuable matter. It was, each year, a little enlarged, till the thirteenth volume, when it became a monthly, and expanded to 672 pages. Volume fourteen consists of six numbers, making about 400 pages. Volume fifteen will consist of twelve numbers, making about 800 pages.

Now we have no boast to make in regard to what the Register has been, for those who have read it know full as well as we. We have only to say, that so far as our humble ability would admit, we have endeavored to gather up the fragmentary items of professional progress, and put them in such form as will be most tangible. For the future we promise nothing more than is indicated by the past.

T.

### DISEASED ANTRUM.

Sept. 29th, 1860, Mr. M.——called for an examination of dis-He is of good constitution, and of nervous-bilious eased antrum. temperament. His health had been good until within a few weeks, during which time his strength and appetite have been failing. He has suffered to some extent for a year past, in the right antrum of Highmore. There has been almost a constant discharge of pus from the nostril of that side; there has also been frequent discharges of blood in small quantities. The pus discharged was often times of a greenish cast, and very feetid. The pain has been gradually increasing; there has been, however, no external soreness or tumefaction. The first superior molar of that side, had some four or five decayed cavities in its crown, by none of which, however, was the pulp exposed, and it was still living, and so far as the vital connection of the tooth was concerned, it was perfectly healthy. No soreness was exhibited on percussion. The tooth was, therefore, not the cause of the difficulty in the antrum. But, the tooth being so much decayed, and having no antagonist, removal was decided upon in order to effect an opening in the antrum. After the tooth was removed, the floor of the antrum was, perforated by an opening about two lines in diameter. A small quantity of thick pus was discharged through the orifice; washed out the antrum with tepid water having in it a little tincture of myrrh and chloride of soda. The passage from the antrum into the nostril afforded a free passage of the fluid. After thoroughly cleansing out the antrum, proceed with a blunt-pointed probe to make an examination of the cavitiy; nothing unusual was indicated upon the walls, but upon the superior part of the roof of the cavity, there was either a tumor or extensive thickening of the mucous membrane; this was indicated by the yielding of the probe, to the extent of about a line.

During the first two days, washed out the antrum once every six hours with the diluted tincture of myrrh, with a few drops of creosote added.

After syringing out, the opening was closed with a piece of soft wood dressed to the proper size; this was done to prevent the closing of the opening. Each time after removing the plug of wood there was a free discharge of pus; this, however,

gradually became less. I directed the patient to use for a wash, the simple tincture of myrrh, with about thirty drops of tincture of iodine to an ounce of myrrh, and if there was much fetor, to use occasionally an injection, chloride of soda, or the tincture of myrrh, with a few drops of creosote, and to take such means as will best establish the general health, using good nourishing food, and taking ample exercise in the open air.

T.

## "A. B."

Is our friend, "A. B.," of the American Dental Review, surprised that he was expected to be candid and truthful as an edi-If so, we can understand most of his "whew" editorial in the November number of the Review; if not, it is quite beyond our capacity. He says: "We are even accused of intentional misrepresentations." Certainly, friend "A. B.," and convicted of it, too, by your persistent neglect to correct your misrepresentation. His palaver about Webster and Worcester is all right, perhaps, but amounts to nothing; and there is no special call in Providence for his hope that he will be able to express his ideas more clearly. No one, that we know of, complains of any want of clearness in the expression of his ideas. Want of fairness in expressing the ideas of others, is all that the Register has objected to. It would have required less space than is occupied by his late editorial, to make an honorable, straightforward correction of his mistake; (?) but that would have let all his readers see how grossly he had misrepresented the language and sentiments of Prof. Taft, while professing to make a verbatim quotation from W. his article.

"Render unto Cesar."—The American Dental Review, by oversight, of course, credits the New York Dental Journal with Prof. Calvert's article on "Artistic Dentistry." By a careful reading of the Journal, our Review brethren will see that it obtained it from the Register.

W.

-06---

### BOUCHET'S PLUGGERS.

We not long since had occasion to speak of and direct the attention of the profession to the Dental instruments manufactured by Bouchet, of New York, especially drills and excavators, and we now, with much satisfaction, refer to his pluggers. We have been using them for several months and find them in every way superior to anything we had used before. The points are of the different sizes and shapes required, and finely and perfectly serrated, and work smoothly in the gold without any hanging or draging. The steel of which they are manufactured, is either of a very superior quality or wrought by some method to us unknown. We have operated with these instruments till we do not know how we could get along with those in common use, the results obtained with fine instruments are so much more efficient, beautiful and satisfactory, than those obtained by the use of inferior ones, that we can hardly conceive how any one will tolerate imperfect instruments. The best are always cheapest, (cost what they may) and the most satisfactory to all concerned. Much more depends upon good plugging instruments than most dentists are willing to concede. The thorough consolidation of a plug, as well as its thorough adaptation to the walls of a cavity, depends quite as much upon the perfection of the instruments as the skill with T. which they are used.

Salivary Glands in the Breast.—"The most serious objection that can be advanced to chewing tobacco, is its extreme filthiness, an objection which should be sufficient to prevent its use in that way among dentists. The next is the drain upon the salivary glands, but among old chewers this is so slight as to be of no practical moment; they expectorate but little, and old smokers not at all." Salivary glands drained by expectoration! But we must not be too critical, for the writer has told us that this was "written with the smoke of a good cigar curling around my head." The mind, like the eye, can not see very distinctly through smoke. For further particulars, see an article in the December number of the Cosmos, by Chas. Woodnutt, D. D. S.

# "ARGENTINE"! (?)

"Monsieur Tonson's come again!"

ACCORDING to Garrick, one item in the direction given by Jupiter to his attendants when about to make Goldsmith, was,

"Set fire to the head and set fire to the tail."

Fortunately, the "M." editor of the American Review has adopted this principle, in the illumination of an article in his November number. The article is about "ARGENTINE," whatever that is. By the headlight of the article, we are able to read "Gold versus Amalgam," and by its caudal phosphoresence, we are able to discern a very ordinary method of preparing "amalgam paste," from which we infer that "argentine" is the rotten carcass of amalgam cement, long since buried "with the burial of an ass," by the better informed of the profession, but now resurrected and nom de plumed by this editor of the Review. "Argentine," indeed! We have heard of a kind-hearted man who never calls a certain long-eared animal a mule, lest the name might suggest that he is the son of a jackass. He calls him a horseine.

But seriously, we are surprised at M's article, and we are surprised at the man. He gives a case in which two bicuspid teeth were filled-one with gold, the other with amalgam cement. By means of clasps and a plate, the two plugs were electrically connected by a perfect metallic conductor. After a lapse of two years, or more, the tooth filled with gold is found decayed around the plug, while the other remains sound. Now, while this is exactly what science would look for, under the circumstances. and while it affords one of the strongest arguments against the use of amalgams, our friend goes on to dignify them with a high-sounding name, and to defend the use of them, in view of this case. His opinion is that the main reason for the "seeming superiority" of amalgam over gold is, that it "exerts a chemical, as well as mechanical influence to arrest caries." Well, what kind of chemical influence does it exert? Dental caries is produced by acids. Is amalgam cement alkaline? In this paragraph, he claims for the amalgam only a "seeming superiority" over gold, and tells us that when properly prepared, it "is, perhaps, more

certain than gold to stay the ravages of decay" in soft, badly organized teeth. (The italics ours.) He seems, however, to be frightened at such a claim, (and well he might be,) and goes on to state clearly his views, "for fear that some young and inexperienced practitioner may be misled by the foregoing remarks," and conclude that he advocates the indiscriminate use of amalgams. These views are so clearly stated, and are so interesting in themselves, that we will reproduce them. He says, on page 189:—

"In the first place, we admit that many failures have been, and are constantly being made, with amalgam, as a filling for teeth; but we deny, at the same time, that the per centage of failures is greater in this than gold work. And we believe, furthermore, that if the same care in preparing the cavity and the regard to nice manipulation were manifested in filling with argentine that there is with gold, the per centum of success would be larger with the former than the latter. And again, were we to use it in just such cases as we use gold, i. e., in the most favorable cases, the proportion of successful operations would be still greatly augmented. But who that can fill a tooth well with gold will resort to anything else, in a case where he feels that he can do such a job as will benefit his patient, and do himself and profession credit?

Could every one who calls himself a dentist do good filling with gold, and were our patients so well aware of the necessity of seeing their dentist early and frequent, then, indeed, would the necessity rarely exist for the employment of anything but pure gold foil. But while the great majority of dentists do not know how, or lack the ability to fill teeth well with gold, and patients neglect their teeth, and refrain from calling on the dentist until their teeth are in an advanced stage of caries, argentine must hold

a prominent place in dental therapeutics."

Now, let us look at this. He claims that amalgam filling, as it has been and is practiced, is as successful as gold filling. He claims, farther, that if the two styles of work were performed with equal care, amalgam filling would be more successful than gold. And, besides, it is used only in unfavorable cases. If used in the favorable cases, as gold is, it would still be far more successful. In short, it is as successful as gold, now: If used, with care, it would be more successful. And, if used with care, and in favorable cases, it would be much more so. And this, dear reader, is the doctrine he has stated so "clearly" for fear that some

"young and inexperienced practitioner" will conclude that he advocates "the indiscriminate use of argentine." Now, "young and inexperienced practitioners," don't you use amalgam cement "indiscriminately," or, if you do, be sure to call it "ARGENTINE." To be sure, it saves unfavorable cases, even when carelessly used, just as well as gold, carefully used, saves favorable cases. But don't you use it "indiscriminately."

We stated that we are surprised at M's article, and at the man. At the article for the sentiments it contains, and at the man for professing to hold these sentiments, while he objects to their reduction to practice. What! shall we not use this "argentine," right straight along, when the success of even those "that can fill a tooth well with gold" will be augmented? But—pshaw!

W.

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THE HIPPOPOTAMUS WITH THE TOOTH ACHE.—We find the following in a London paper:

Mr. Bartlett has kindly sent me the following particulars, which I am sure will be read with great interest. The operation

does Mr. Bartlett great credit:

F. T. BUCKLAND-My dear Mr. Buckland, I had intended to write to you before I left town, but could not find time. You will be glad to know that I have succeeded in performing perhaps the largest, if not the greatest dental operation on record. Our male hippopotamus has been, as you know, suffering from a fractured tooth, and fearing that the consequences might be serious. I have had a strong oak fence fixed between his pond and the iron railings, and I then determined to remove the broken tooth; this I accomplished on the morning of Wednesday last, but not without a fearful struggle. I had prepared a powerful pair of forceps, over two feet long; with these I grasped his fractured incisor, thinking, with a firm and determined twist, to gain possession of that fine piece of ivory. This, however, was not so easily done, for the brute, amazed at my impudence, rushed back, tearing the instrument from my hands, and, looking as wild as a hippopotamus can look, charged at me just as I recovered my forceps. I made another attempt, and this time held on long enough to cause the loose tooth to shift its position, but was again obliged to relinquish my hold. I had, however, no occasion to say, "Open your mouth," for this he did to the fullest extent; therefore I had no difficulty in again seizing the coveted morsel, and this time drew it from his monstrous jaws. One of the most remarkable things appeared to me to be the enormous force of the air when blown from the dilated nostrils of this great beast while enraged. It came into my face with a force that almost startled me.

A. D. BARTLETT.

A few days ago we saw the tooth referred to on page 617 of Vol. 13, of the Register, in describing the case of Mrs. C. As some of our readers may not have the volume at hand, we will briefly recapitulate. In May, 1859, Mrs. C. called with an upper incisor badly decayed, pulp dead, and abscess formed. The formation of the abscess had taken place several months previous to her visit. This case was treated, and the teeth filled, at a single sitting. The abscess healed at once, and has never returned, and the gums no longer give evidence that it ever existed. The tooth has given no discomfort since, and its color is better than when first filled. The canal was not filled—with gold, or any thing else. This patient has very bad health, but is careful of her teeth. W.

The Pocket Anatomist. Being a Complete Description of the Anatomy of the Human Body, for the use of Students. By M. W. Hilles.

This is a little work upon anatomy, prepared expressly for the student, and is truly multum in parvo. It is a valuable work, and one that would be of advantage to all. It is frequently the case with the student that he wishes a leading idea or particular in regard to a part or organ, and a few words will lead to the point he desires, and everything else he desires comes readily to mind.

The work before us is just calculated to accomplish this, and every student of anatomy should have it, or such an one, always at

hand.

It is published by Lindsay & Blakiston, of Philadelphia, in a very neat and well finished manner. T.

EAST SAGINAW, DEC., 1860.

Dear Sir:—The Sixth Annual Meeting of the Michigan Dental Association will be held at Ann Arbor, on Tuesday, the 8th

day of January next, at 7 o'clock, P. M.

The interest in these meetings of the Dental Profession is yearly increasing, and no one who wishes to keep posted in the improvements of the Art can fail to be well repaid for attending. Every member of the Association is expected to be present.

Respectfully yours, L. G. Whiting, Sec'y.

#### THE

### DENTAL REGISTER OF THE WEST.

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## Original Essays and Communications.

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# A RETROSPECTIVE AND PROSPECTIVE VIEW OF DENTISTRY.

BY W. A. PEASE, M. D.

[Read in the Mad River Valley Dental Society.]

During the course of any progressive science or profession, it is useful to pause, at times, and see the progress it has made, and whither it is tending. This is the more useful and becoming in a young profession, that sprung suddenly into existence to supply a great public want, which, while it requires a high order of medical learning, and owes much of its prominence to the skill of its members in operating on the mouth and teeth, is also, as now practiced, based, to a considerable degree, on mechanical tact and ingenuity.

The profession of dentistry is anomalous. Though nearly allied to a specialty of the medical, yet, unlike it, it can not be truly said to have had any history, or any past,—it is a profession of the present, the offspring of civilization, and of the American climate and institutions.

It will fall to the province of this paper to notice, briefly, the causes in the history of our race, which prevented dentistry, as a profession, from coming sooner into existence as

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an auxiliary of the medical; and what were the peculiar circumstances, which, finally, gave it birth, a vigorous growth and development, unprecedented in the history of any other science or profession.

Man, as a natural animal, leads a life simple and bucolic. His wants are few, his tastes are easily gratified, and he is possessed of so healthy and robust a constitution, that, accidents excepted, he has little need for the services of a dentist. Without pausing to consider the autocthones of this country, whose dentures are admirable; if we extend our review to the Eastern Hemisphere, and to the ancient and modern civilizations, we will find that dentistry, in them, has never assumed the form and proportions of a profession; it has none of the attributes of a science, simply because there was no great public want to call it into existence.

Leaving modern Europe, for the present, if we trace back the history of our race to the ancient civilizations, we will find in their form of government, the structure of society, education, habits of life, and sustenance of the people, few elements likely to create a demand for dentists, and fewer to furnish the supply if the demand existed. Although, undoubtedly, there then existed some loss of teeth from caries as now; and from their warlike propensities, their primitive method of warfare, they were peculiarly liable to loss of teeth by violence; yet, it would fall, principally, upon that class of community, which would have little inclination, or ability to patronize a dentist. Neither had the ancient Greeks nor Romans any more need for dental interference than the Egyptians, or Syrians. Their habits of life, simple diet, abundance of out-door exercise, and the peculiar care they took to preserve their health and physical vigor, were eminently calculated to preserve their teeth. Dismissing, then, from our view the ancient civilizations, as having, from the very circumstances under which they existed, little inclination for or need of dentists, we will find, in the feudal times, the first germination of those circumstances and conditions of society, which, in after ages, were to call into existence the dental

profession.

Shut up and isolated from society, in their old feudal castles, the haughty old barons were often forced, for considerable periods of time, to form a society of their own, out of the material with which they were surrounded. Here, woman first arose from the condition of a slave, or the minister to the pleasure of man, to be his companion, and to occupy a position more nearly akin to the one she has since held in modern Europe. Spreading from the old castles, as points of diffusion, the amelicration in the condition of woman extended from place to place, and from rank to rank, slowly it is true, but, steadily, until finally, after the lapse of centuries, it reached all nations, and nearly all classes. With her new conditions came new pleasures, duties, responsibilities and also new penalties. She acquired a greater delicacy of structure and sensibilty, together with a higher grade of education, which, if they did not so soon beget, made her sensible of annoyances, inconveniences, and ills to which she was before a stranger. Still actively participating in the pleasures of her lord, she was by no means a caged bird, pining for light and air, or a prey to lassitude. quently accompanied him to the chase, the tournament, or the camp; thus preserving all of the delicacy of the high, with much of the vigor, but, none of the coarseness of the servile condition. Thus, even to the present time, in the higher classes of Europe, the women, secure in and conscious of their position, in spite of the deteriorating influences of family intermarrying, by their active exercise, both in field and at home, have maintained a vigor of constitution, that has given them a perfection of denture, truly admirable. Born to a life of leisure and enjoyment, surrounded by servants to minister to every want, with houses filled with books, pictures, statuary—every thing that heart or taste can desire, they have found that all real, rational enjoyment—the true dignity of womanhood-consists in a life of activity, and, that

the dignity of idleness is the dignity of ill health, and of self-dissatisfaction.

Turning then, from Europe, as presenting no great want to stimulate the ingenuity or the energies of man to supply the limited loss of natural teeth by artificial dentures, or to seek for remedial agents to cure, or prevent disease, we will find all of the conditions necessary to call forth the inventive genius of the mechanic to invent and perfect artificial dentures, and, of the physician and surgeon, to stay the rapid and general decay of the teeth, in America of the nineteenth century.

The class of people coming on to the stage of life thirty years ago were peculiarly situated. The country had enjoyed a season of repose and prosperity; the labors of the husbandman had yielded a bountiful return, which had enabled him to improve his farm, erect buildings, comfortable, commodious, and often elegant, to educate his children, and to surround the family with many of the elegancies and luxuries of life; while commerce, manufactures, and the professions had been equally prosperous. Remembering the privations he had endured, in the total absence of a hereditary aristocracy, or titled nobility, each head of a family strove to place his children in that position, in which they could profit the most by the circumstances by which they were surrounded, and attain to that high social and political position, due to merit and earnest endeavor. Thus, in a country where there was a pretty equal distribution of wealth, where society was founded on the natural laws of affinity, and the only aristocracy was that of merit, or the ability, or disposition to enjoy the luxuries and elegancies of life, there was a noble emulation and ambition to surround the family with those elegancies, which were then fresh in their minds, as belonging to, and which, they constantly associated with the aristocracy of Europe. Thus, the only external sign of an aristocracy in a democracy -the one which addressed itself to the age, and was the most cognizable, was a certain elegance in attire, in household

surroundings and equipage. This desire, common to the people of this country, as soon as they have risen above the sphere of actual want, to conform to the requirements of taste in habiliments and equipage, paved the way for the rule of Fashion, and gave a certain force of law to whatever was done by any individual, who, by force of circumstances or taste, was recognized as an arbiter eleganturium, and leveled all up to his standard to restore his democratic balance. At this period in our history, there existed a large amount of dental disease in the mouths of our countrymen. Large classes of persons, especially females, past the meridian of life, had lost a considerable number of teeth; while many of them were toothless. This loss was severely felt; not only from the difficulty they experienced in masticating their food, in pronunciation, but, also, as a deformity, giving them a superannuated appearance. Here was a great, pressing, public want, common to all the cities and villages of the land; but, happily, a want, though difficult to supply, yet more easily supplied, than had it been equally pressing to save the natural teeth; because, this appealed directly to the mechanical ingenuity of a free and universally educated people; remarkably thoughtful, self-reliant, and given to invention,to natural mechanics, fruitful in devices. Hence, this latent, unexpressed want had but to receive utterance; people had but to know that they could be supplied, however imperfectly, at their own homes, and for a reasonable compensation, instead of being obliged to send to Europe, as did Washington, and others, for a cumbersome, inefficient, and expensive piece of mechanism; then orders would be numerous, and a brisk trade would spring up. Especially would this be the case, if a set of teeth was inserted, for the right person, in the place; for then, independent of the intrinsic value it might be to him, it would have much of the force of fashion, and be adopted by the toothless accordingly. Distinctly is the excitement in social circles recollected, after a fashionable lady, in an interior town in New England, returned from

New York, with a new set of teeth. It was the first one ever brought to the place, and it excited a deal of gossip and curiosity; and although from its bad adaptation to the jaw, it caused her constant pain and trouble, it was worn most heroically, until, several months afterward, she suddenly sickened and died. Then it was asserted by the servants in the kitchen, and indeed, by others of a much higher order of intelligence, that she was removed by special interposition of Providence, for the sin of having dared to have restored, organs, of which she had been prematurely deprived, for some wise and inscrutable reason.

The artificial teeth used by Washington, and by others to a much later period, were carved to fit the mouth from solid slabs of ivory. Although, natural teeth were used, either pivoted on fangs, or mounted on some mechanical contrivance, that afforded a feeble support. They, in turn, were succeeded by porcelain teeth; and although superior to them in cleanliness, and durability, they were but a poor representative of them, either in form, color or expression; and it was not till near the time that Messrs. Jones, White & McCurdy commenced manufacturing them, that they were brought to such artistic perfection, as to make them very desirable substitutes for the natural teeth. After this time they were rapidly improved, in form, color, and expression; and improvement followed as rapidly on improvement, in the method of mounting them, till they were brought to very great perfection and usefulness.

Leaving the mechanical department, which we have seen took precedence of the operative, or dentistry proper, and from the tangibility of artificial teeth, and the real benefit they at length became to the wearer of them, and from the fact that they addressed themselves to the eye, and thus were noticed, and commented upon by others, they raised dentistry rapidly to a high position in the public estimation, as a useful and ornamental art, and paved the way for the advent of dentistry as a profession. Prior to 1820, Dr. L. S. Parmly had

America; but his professional labors seem to have been chiefly directed to cleaning, regulating or extracting the teeth, or removing, by the file, superficial caries. At that time, deepseated caries was beyond the resources of art, and hence, only those teeth having superficial cavities were ever plugged. The next step in the progress of conservative dentistry was to de stroy the nerve, by means of a probe, or of arsenious acid, and then plug the cavity of decay; but this was soon found to produce so serious trouble, from acute and then chronic periostitis, that it was discontinued by many practitioners.

At the time the Baltimore College was established, dentists were to be found in all the centers of commerce or trade in the land; and it was then seen, from the premature and rapid decay of the teeth, that dentistry would soon present a wide field to men of mind and education, for lucrative and honorable employment, provided they could give it tone and direction, and raise it from a trade, requiring but a moderate amount of learning and skill, to the dignity of an independent profession, or a specialty of the medical. They hoped that men educated in a college, devoted specially to the profession, would soon be enabled to so far improve the practice as to make the mechanical department entirely subservient, and to occupy the same relative position to the dentist, that the manufacturer of artificial limbs or glass eyes does to the surgeon. From this time forward, during the decade ending in 1850, there was a gradual improvement in the art of plugging teeth, not only as to the quality of the plug, but also, as to the ability of plugging successfully a greater variety of the more difficult cavities; but it was not till 1854, when Dr. Ballard discovered that acute and chronic periostitis could generally be successfully treated, and thus, all the teeth in the mouth sufficiently strong to retain a plug, could be rendered valuable for years, if not for life, that dentistry could be said to preponderate over mechanical art, and thus to be established on a professional basis.

From this time there was no need, accidents excepted, that a person having moderately healthy teeth, who daily cleaned them, and had them plugged as soon as decay was apparent, should ever wear artificial teeth. Dentistry was now in the ascendant, and it was thought, as soon as the public mind could be disabused from the prejudice against plugs, caused by the miserable failures of mechanics and incompetent operators to make their plugs stick, or to protect the teeth, that the number of persons getting artificial teeth would be inconsiderable. Dentists now began to be hopeful, not only as to the future of their profession, but also as to the future of the race, for they saw nothing but disaster and degeneration, if mechanics were to go on and accelerate the loss of the teeth. by their ill-directed attempts at plugging them; and afterwards, fill the mouths of many of the men and half of the women in the land with their artificial substitutes.

In dentistry, as in other arts, improvements come seldom alone. There are periods of rest or incubation, during which the inventive faculty seems dormant, and people are enjoying or testing the capabilities of the improvements they already possess. Suddenly we are startled by an improvement that is really valuable, and a decided step in advance; and often, before the first exhilaration caused by the new discovery has subsided, come other, and perhaps still other improvements in the same, or other departments, that are independent of, and yet auxiliary to it, that give it a wider range of application and usefulness. Dr. Ballard had scarcely published his theory, that acute or chronic periostitis of the tooth was curable, than Mr. A. J. Watts produced a sponge gold, for plugging teeth, that rendered the discovery of Dr. Ballard of much greater importance; and Prof. Arthur, experimenting on the capabilities of sponge gold, discovered that ordinary gold foil properly annealed, possessed many of the adhesive qualities of it; and Dr. Clark also discovered that, from gold foil formed into cylinders, he could make superior plugs. These discoveries, coming one after another, placed operators in a very

high position, and made the distinction between a dentist and a mechanic greater than it had ever been before; in short, in theory they destroyed the vocation of mechanical dentists, as a large and distinct class, as they ought to have done in prac-For their fear of periostitis being removed, with these materials, dentists were able to form and build up solid and durable plugs in large cavities, and restore the form, and strengthen frail and badly broken teeth, so that that large class of cases, which neglect, or previous maltreatment, had rendered nearly hopeless, were now generally manageable. Convinced themselves of the intrinsic value of these improvements, and of the command they gave them over disease, dentists imagined that they had but to show to the community the superiority of the new practice, to have it as gladly adopted as it had been by the profession; and that as their practice had been revolutionized, there would soon be as great a revolution in that of the people, and that the demand for mechanical dentistry would soon visibly decrease. In this they were mistaken; they did not calculate upon the vis inertia to be overcome in all public improvement, upon the difficulty of changing the current of men's minds, or the practice of their lives; of convincing them that the new, more tedious, laborious and expensive method of plugging teeth possessed a greater intrinsic value than the old; that having often been deceived, they would view this as another of the new and great improvements constantly being made and heralded abroad by dentists of the sensation school, to be quickly abandoned and superseded by others. They did not see the relative position they occupied to the public clearly and distinctly, or whither they were drifting; that, whereas the physician could prescribe and administer his own prescription, the practice of the dentist being chiefly operative, he was obliged to consult the wishes of his patient, who, if his prejudices or whims were not complied with, could go to others more accommodating and pliable; besides, he could fix his own terms, having no fear cf death before him; or seldom impelled by

pain, he could deliberate, and go from one to another without greater risk than the loss of the tooth. Thus there is a depressing element in the dental profession, that weighs it down towards the level of a trade, that is not to be found in the medical, where acute sickness opens the purse strings, or in the legal, where titles, passions, or large money considerations prompt to the employment of the best counsel. This depressing effect is visible in practice; for the fees of the generality of practitioners are a low minimum, bringing them into constant conflict with their sense of duty to their patient, on one side, and the temptation, by imperfect operations, to secure for themselves a small profit on the other.

Few dentists have the moral heroism to so establish their fee bill as to secure for themselves a fair compensation, and for their patients the best of operations; they can not consent to limit their practice, to see people leave their office, day after day and year after year, because they require a fee that will enable them to deal justly and honorably with their patients, and at the same time, by study and the purchase of more and better instruments, prepare themselves for a wider field of usefulness; while their neighbors, by means of smaller fees and much poorer operations, secure an equal profit, a liberal patronage, and a popular reputation. Thus the whole course of dental practice,—the inevitable logic of events, points, unerringly, to one of two positions that must be occupied by dentists at no distant day—they must either be members of a profession or a trade; they can not be both. If they choose the former, they must seek, by means of high qualifications and the best of operations, to show the community that it is needless, that it is folly, to lose their teeth and to wear artificial ones; on the contrary, if they choose the latter, all they have to do, to secure the greatest success, is to perform their cheap, but valueless operations, ruin the teeth, under the guise of saving them; and thus, thoroughly convince the public that all operations are humbugs, and mechanics alone are worthy of patronage. Already, in all the principal cities, there are numerous persons engaged in the business, who manufacture artificial dentures that, so far as the public can judge, possess all of the requisites for comfort and usefulness, and that, too, at a price so little above the actual cost of production as to leave them scarcely mechanics' wages. Without the greatest exertion, this class of persons is going to increase, and vitiate still further the public sentiment; for every set of teeth that is inserted is an advertisement, it is known to and criticized by a large circle of acquaintances. The remedy for this will consist in making each filling as perfect as possible, and in convincing the public that the teeth should be plugged when the cavities are small. Where no teeth are lost, of course, none will be inserted.

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LIFE AND CHARACTER OF CHAPIN A. HARRIS, M. D., D. D. S.

AN ADDRESS,

BY PROF. JAMES TAYLOR.

[Read before the Cincinnati Dental Association.]

Mr. President and Gentlemen:—In accordance with your kind and courteous request, I now endeavor to bring before you, in review, something of the life and character of one whose memory is dear to us all. You all know that Professor C. A. Harris is dead—that Death has indeed passed before us with solemn tread, and, with fatal shaft, has struck down the author, the friend of dental science, the friend of all who love dental progress, the pioneer of medico-dental education, and the zealous and indefatigable defender of the claims of dental surgery.

The solemn notes announce his demise—they tell us he is no more—and we ask, shall we no more hear his friendly greeting, no more grasp that hand so cordially extended, no more see that beaming countenance, radiant with the reflections of a pure and generous heart, no more hear that voice, ever ready with kind word and persuasive eloquence to cheer

the youthful aspirant for professional excellence? That pen, so often wielded for the elevation of our science, lies silent and still, no more to trace the thoughts which welled up from the depths of his vast intellect, rich with stores of knowledge from every department of science, all contributory to that specialty he had chosen as his pursuit.

Some men, indeed, do die. They pass away, and are soon forgotten. But it is not so with Dr. Harris; for, though all these moving realities of life with him have passed away from us, and we shall see them no more, yet our friend still lives. He lives, fresh in our memories. He lives in our offices. We go into our laboratories, and he is there. We open our book cases, and it is Dr. Harris, Dr. Harris, Dr. Harris. We can almost hear his voice, and see his radiant smile. That pen, though still now, traced thoughts that will never die. Dr. Harris "is not dead, but sleepeth," and will come forth at the great day to render up an account of his stewardship. Such a man we are proud to call our brother; and we feel that the lives of such men have rendered our profession an essential and invaluable service. May we all be able to do as well for our race!

We have met, my friends, this night to look at some of the excellences of the life and character of our departed brother. I feel that we can not fail to be bettered by the retrospect through which I shall endeavor to lead you. It may, indeed, urge on some of you that are now young, and just entering on the duties of the profession he so much adorned, to a like consecration of your time and talents.

PROF. CHAPIN A. HARRIS was born in Pomfrey, Onondaga county, New York, May 6th, 1806. He died, September 29th, 1860. His ancestors were originally from England; and their connection traces back to the author of "Hermes," James Harris, grandfather, I believe, to the present Earl of Malmsbury. Captain Joshua Harris, who fought bravely under Stark, at Bunker Hill, was his grand-uncle; and his grandfather was killed in a skirmish, during the Revolutionary

War. But Dr. Harris wrought out his own patent of nobility—one conferring more real honor than that derived from titled inheritance, because honestly earned, and always honorably maintained.

At about the age of seventeen, Dr. Harris came to Madison, Ohio, to which place his elder brothers, James and John, had previously removed. Here his brother John was practicing medicine, and he entered his office as a student. After pursuing the course of study which was then prescribed by the laws of the State, he applied to the Medical Censors, and was licensed to practice Medicine and Surgery. This State was then divided into quite a number of districts, in each of which a Board of Medical Censors, or Examiners, was appointed, whose duty it was to examine all candidates who applied for license to practice medicine; and without a certificate, or diploma, from this Board, no fees for medical services could be collected. This law appeared to be necessary to meet the want of proper medical institutions, which, up to this time, had done but little for medical education in the West. I believe that a diploma from a medical school rendered a certificate from a board of censors unnecessary; but, at that time, not more than one in ten of our regular physicians had a diploma from a medical college. The medical department of Transylvania University, at Lexington, Ky., and the Ohio Medical College were then just struggling into existence. It appears that the law above referred to did not include dental surgery; for dentists were not obliged to meet its requirements. Any one who saw fit, could cut, file, and tear away at the teeth without fear of law; and many, I fear, did so without much regard to gospel.

Dr. C. A. Harris, having received his license from the board of censors, commenced the practice of medicine in Greenfield, Ohio; and here my personal acquaintance with him began. His brother, Dr. John Harris, had, by this time, removed from Madison to Bainbridge, Ohio, my native place; and I was a student of medicine in his office. Dr. John Harris

must have located in Bainbridge in 1826, and Dr. C. A. Harris, in Greenfield, in 1827. In this latter year, the former turned his attention to the practice of Dental Surgery. He had acquired considerable reputation as a general surgeon, and was a skillful and ready operator. He was much devoted to the study of anatomy and chemistry, fond of experimenting, had a quick and active mind, was polished in his manners, delighted in imparting instruction to his pupils, devoted much time to their interests, and prided much in their advancement in medical knowledge. At that time he had three or four students, two of whom followed his example in the pursuit of dental knowledge, myself being one of them. Being among my relatives and friends, and acquainted in all the surrounding towns, I had fine opportunities for putting into practice the little knowledge acquired.

The insertion of artificial teeth being then something of a novelty, Dr. John Harris and myself extended our practice to some of the adjacent towns, and, while thus engaged, visited Greenfield in 1828. Dr. C. A. Harris being there at the time, we operated, to some extent, in his office, and among his patrons and friends, and here began, on his part, that career of dental study, which expanded and strengthened, till it culminated in a rich stock of dental knowledge, for the good of the profession. He remained in Greenfield only about one year, and then removed to Bloomfield, Ohio, combining the practice of dentistry with his other duties, as occasion offered, for two or three years.\*

We next find him wending his way eastward into Virginia, and having arrived at Fredericksburg, he began the practice of dentistry there, and his success was such that he abandoned entirely the practice of general medicine and surgery. But, though abandoning the practice, he by no means neglec-

<sup>\*</sup> In an obituary notice I prepared for the Dental Lamp, I find that I erred in stating that Dr. Harris removed from Bloomfield to Greenfield. The reverse appears to have been the case. For some facts in the life of Prof. C. A. Harris, I am indebted to the kindness of his son, Mr. C. B. Harris, now of Baltimore.

ted the study of medicine; for his attainments were such, in this line, that more than once he received the honorary title of "Doctor of Medicine." Owing to his good success, as a dentist, he was no longer content with a small field for operating, and accordingly, he left Fredericksburg and came to Baltimore, which had many advantages for the practice of dentistry. Here, it may be said, his great work for the profession began. Here his energies were concentrated, and here was accomplished that which so endeared him to his professional brethren.

Dr. Harris' early advantages were not better than those of the most of you now before me. He began life, if not poor, at least not rich; and he had not, and could not then have any special advantages in dental instruction. Dentistry was then principally in the hands of quacks and empirics. The medical profession had not really cast it off; for they had never put it on. It was not, however, claimed as a part of medical science. It was looked upon, by physicians, as merely a mechanic art and was still so rude as to be left almost entirely to the hands of silversmiths, if not to tinkers. They regarded it as derogatory to their high calling to descend from the curing of disease, to dealing with the dental organs, further than to tear them from their sockets when their presence could no longer be endured.

Dr. John Harris and myself had many protracted discussions on the importance of a thorough medico-dental education, and the best method of securing it; and in these we were joined by Dr. C. A. Harris, on one or two occasions, or perhaps oftener. The leading idea, for several years, was to have a department of dental surgery attached to medical colleges. But the medical faculties had already too much to teach; and it was feared that while, by this course, all might be made dabblers in dental practice, but few would be made proficient in dental science. The more our specialty was looked at, the more important it appeared, and it soon became too large for annexation in that way. Prof. C. A. Harris

certainly is entitled to the credit of making the first movement in the right direction, and of establishing that system of instruction which alone can give character and stability to our profession. I am truly glad to see that this system gains more and more in favor, and I can not see why any member of the profession should hold back, in regard to that which exalts and dignifies his own profession and himself.

It appears that in the early establishment of the Baltimore school, Dr. Harris met with some of that opposition which such enterprises are generally doomed to encounter. Many of the profession either opposed, or rendered no aid; and the medical department of the University of Maryland opposed the measure. There always appears to be interests, or monopolies, which are afraid of shadows, or over-jealous of their rights. I well remember when there was as much indifference, by medical men, to the establishment of medical schools, as there is now, or rather as there was ten years since in relation to dental institutions, on the part of dentists. It takes time to wear off these fossil attachments. The march of science will and must overcome all such obstacles. The mighty power of truth will ultimately prevail and triumph.

How seldom is it that the originators of great enterprises live to see the entire success of their schemes! Dr. Harris, however, lived to see much of his labor crowned with success, but not long enough to derive that full amount of pecuniary profit which his arduous labors deserved.

Let us take a hasty glance at some of his professional labors, after his removal to Baltimore.

In 1839, we find him engaged in organizing the Baltimore College of Dental Surgery, which went into operation in the fall of that year. We find the following notice, which we believe is the first published by the American Journal of Dental Science, in relation to this school, and which, although written before Dr. Harris had any control of its pages, expressed his sentiments:

"There is no good reason (the Editor remarks) for the in-

ferior rank that dental surgeons have been compelled to take in comparison with professional men. Why is the surgeon, who amputates a limb, or dresses an ulcer, more highly to be esteemed than he who confines his attention to the diseases of the mouth and dental arch? Is the knowledge of the former acquired with more laborious industry? Is his skill the result of more persevering research and careful experience? Do the operations he is called upon to perform require more judgment, or greater nicety than those which devolve upon the practitioner of dentistry? No man acquainted with the facts in each case, will respond affirmatively to these inquiries.

Ile who devotes his life to the alleviation of the suffering of his fellows, is a respectable man; and he who brings knowledge, carefully acquired, to aid in this object, is a scientific man. It matters not whether his efforts be directed to assuage a fever or remove a pain, to save life or to render it comfortable. The object, the honor, the motive is the same, and so it should be, in the regard of those who are profited thereby."

We have here the true secret of that continuous perseverance which impelled the Doctor to labor in this department of the healing art. Nobly casting aside all those prejudices which had been brought to bear on the practice of dentistry, he went zealously to work to redeem our science from obloquy, and knew no faltering until death removed him from his labors. It requires no little labor and self-denial to assume the responsibilities of a teacher in a school already organized and under successful operation; but not a tithe of that labor and anxiety which Dr. Harris must have undergone, in developing and perfecting a new enterprise, the educational materials of which had to be culled from a mass of scientific matter, really more voluminous than that which enshrines medical practice in general; for it branches out and takes in mineralogy, metallurgy, and mechanism.

Having engaged in this same educational enterprise so vol. xv.—6

soon after my worthy colleague, I can speak with some knowledge on this matter; and hence, I can unhesitatingly say that the labor of preparing a course of lectures on any specialty of general medicine, so called, having regular text books for a standard, would not half equal that which is necessary in cutting out a new course without any such aid.

But all this, perhaps, does not equal that amount of labor, care and anxiety which is needed in founding and putting into

active operation schools of this kind.

Look, gentlemen at the programme of study now and when our dental colleges were first organized. Truly we are now no more fit to be annexed to, than were our medical colleges fifteen and twenty years ago. We, like them, then, have as much as we can teach.

Time will not permit me to dwell on what must have been Dr. Harris' experience and toil, in the establishment of the Baltimore College of Dental Surgery. I have merely alluded to it in this place, feeling that I can appreciate it full as

well as any man living.

We next find Dr. Harris engaged as one of the editors of the American Journal of Dental Science. His editorial duties began with the second volume of this valuable publication; and here, I have no doubt, was commenced that career of authorship which has done full as much as anything else to impress his labors on the profession for ages to come. Here, again, these new duties must have taxed to their utmost all those energies not already employed. Perhaps no man knows how to economize all his time, and exert all his talents, until forced from necessity to make the most of them. Up to 1850, other gentlemen assisted in these duties; yet without any disparagement to any of them, it must be apparent that the chief duty fell upon Dr. Harris. In 1850, he assumed the entire editorial control of the journal; but, from time to time, he has since been assisted by different members of the dental and medical professions, and was no doubt thus relieved of much arduous labor. Yet we find that, for some eighteen years, he held on to his post, his energy suffering no abatement, and his zeal never flagging.

Dr. Harris has been a voluminous author. His first work, which drew special attention, was his "Principles and Practice of Dental Surgery." This rapidly passed through six editions, and it is needless to say that it has, so far as the original scope of the work would allow, kept pace with the

rapid improvement in the profession.

"Harris' Dictionary of Dental Science, Biography, Bibliography and Medical Terminology," published first in 1849, has passed through its second edition. We have still a later work—"Fox and Harris"—a reprint of an excellent old English work, with notes, &c., by Harris. These publications all show the careful and labored research of Prof. Harris; and the profession can not well over estimate the advantages derived from them.

Time would not permit a careful analysis of all these works, as well as the many essays and practical articles for our journals, from the pen of our author. We all have access to these works, and they speak for themselves. I therefore leave them where they will always remain, in the hands of the profession, and take a more close survey of his life and character—that which constitutes and makes up the man.

First.—He was a laborious student. This laid the foundation of all his usefulness and fame. His mind was not brilliant, but it was stable and comprehensive Prof. Harris, from the very moment that he determined on Dental Surgery as a vocation, became a zealous and indefatigable student, grasping everything which could be made to contribute to the advancement of dental science. Fortunately, before his thoughts were turned in this direction, he had studied medicine, and hence his mind at once saw the need of all the medical knowledge he could acquire in the practice of this, his chosen specialty.

We have every reason to believe that seeing the need of more cultivation in this department impelled him, as much as

any thing else, to engage in its pursuit. We do know he felt that a very important branch of medical science was almost entirely neglected by the Medical Faculty, and that it was some one's duty to attend to it. Here was a neglected field, uncared for by the profession. A desert waste, overrun with weeds, foul and rank, choking out all the good seed, which had been here and there dropped by the way. To cultivate this field, to uproot these weeds, and make dental science a flourishing plant of the parent stem, would require much labor and assiduous toil. He willed it should be done, and, with no wavering spirit, he set about the work. His perseverance knew no weariness, his zeal no discouragement. desert waste was to be fortified and made productive. It was to blossom out full of beauty, and rich with the choicest treasures of science. To accomplish this, Dr. Harris devoted all his latent energy and life.

Unfortunately, too many in all our professions feel that when the duties of practice are assumed they are prepared, and have but little more to learn. Dr. Harris did not so view this matter. He felt that perfection is rarely, if ever, attained in any pursuit; and saw, as difficulty after difficulty was overcome, in the manipulation of our art, more and more excellence in prospective. We have no doubt at all that, until disease had so laid her heavy hand upon him as to force out all thoughts of everything professional, did he ever give over his zeal in the pursuit of that perfection in dental science which he felt was so essential in practice. He almost idolized his profession, and made every thing in science succumb to her demands. He ransacked medical science in every department, for contributions to dentistry. He sifted the whole arcana of dental and medical literature and gleaned therefrom all the grain of very much value, tested all this by his own practical experience, improved, modified and developed, until he condensed in one work, more practical matter than can be found in any other one volume of the profession.

Talk of two, three or four years' studentship. Here was a labor of years—a studentship of over thirty years. May it not be that more real knowledge of the profession was obtained in the last year of his life than any other? As the mind by study enlarges and expands, it is better able to distinguish the grain from the chaff, and thus lay up a more precious and valuable stock of knowledge each successive year. Every year less and less chaff has to be analyzed. Thus, and in this way alone, can study become a pleasure.

The second prominent trait in the character of Dr. Harris was his fixedness of purpose—his stability. He did not commence a work, and throw it aside for every trifle; but he went straight on to the accomplishment of the object in view, making first this, and then that, stand aside out of his way, and bringing all the energies of his mind to bear on whatever he undertook.

No fickle, unstable man could have accomplished half which he did. Look at his labors as an author, to which I have referred, his labors for the college, his labors for the journal, his labors for our societies; and then add to all this an extensive and laborious practice, and you can form some conception of that fixed, indomitable perseverance, which must have reigned paramount in his character.

We find him at his post in the college, for twenty years—ever learning and ever ready to teach others what he had learned. He laid out his work carefully, looked over the whole field of labor, and then diligently and persistently went to work, waiting, year after year, for those results which he knew must come. Rest assured, young gentlemen, this is as sure as cause and effect. Let me urge upon you who are now just embarking in the same profession, to thus lay out your plans, economize your time, systematize all your labors, and never lay aside your studies,—do all this, and you need never trouble yourselves about success.

It is a noble sight to see talent thus dedicated to a good work; and while Dr. Harris thus dedicated himself to the ad-

vancement of dental science, and accomplished so much in this way, I have every reason to suppose that he neglected not those more important interests which lay hold on eternity.

As a father, a friend, and a good citizen, he will be sadly missed, and long truly mourned. It would be, I have no doubt, profitable to us all, to trace out this phase of his life; but time will not permit, and it more specially devolves on those recently more identified with him.

Dr. Harris' life very forcibly illustrates what can be accomplished by a fixed purpose, to overcome those obstacles which dishearten and paralyze the efforts of ninety-nine in every hundred of those engaging in scientific pursuits. To such, obstacles become the mere ordinary rebuff of every day's experience, and are overcome, as mere pigmies thrown in the way, to excite to renewed labor and zeal. Such minds expand and develop under difficulties. They expect not to glide smoothly down life's current, and be constantly fanned by gentle zephyrs. It takes the storms of life to rouse the dormant energies and bring into active exercise the reserved power of the system.

Many of the greatest achievements of science have been accomplished under the most adverse circumstances. Science always favors the assiduous wooer. It is true devotion that must gather laurels to deck her temple.

Our friend thus wooed. Thus he gathered laurels for the temple of our science, and

"Having won
The bound of man's appointed years, at last,
Life's blessings all enjoyed, life's labors done,
Serenely to his final rest has passed;
While the soft memory of his virtues, yet,
Lingers like twilight hues, when the bright sun is set."

"Cheerful he gave his being up, and went To share the holy rest that waits a life well spent." REMARKS ON THE NATURE OF THE CHANGES WHICH OCCUR AFTER THE EXTRACTION OF THE NATURAL TEETH, AND THE PROPRIETY OF THE EARLY INTRODUCTION OF ARTIFICIAL SUBSTITUTES.

(A Paper read before the Cincinnati Dental Association, November, 1860.)

BY PROF. J. RICHARDSON.

In a brief period after the extraction of the teeth, inflammation, of a higher or lower grade, is established, accompanied with some degree of tumefaction and tenderness in the parts implicated. If the inflammation is moderate in degree, and is permitted to run its usual course, it will be entirely consistent, in its ultimate consequences, with the requirements of the economy. If immoderate in degree and long continued, the natural processes or actions in the parts, determining the various changes which take place, will be more or less diverted or embarrassed.

The immediate issue or product of the inflammation which occurs is, fibrinous exudation from the ruptured surfaces of the periosteum of the socket, which, in its incipient stage of organization, takes the form of granules. In from ten days to two weeks, the socket is partially or entirely occupied with this fleshy substance. During this period, the actions are directed almost wholly to reparation. Absorption does not, ordinarily, occur until the inflammation has, in a great measure, subsided, and hence, at first, there is enlargement or tumefaction of the gums, rather than waste by absorption. As the inflammation subsides, however, these parts, which have no longer any special functions to perform, as the more protuberant portions of the alveoli and adherent gum, begin gradually to waste away under the action of the absorbents. Concurrently with this absorption, there is deposition of osseous material within the socket through some agency of the granules filling it, so that, in course of time, the cavity is partially filled in with bone analogous in structure with the maxilla proper, of which it ultimately forms a part; while the

more superficial portions of the granular formations are transformed into tissues identical with the soft structures immediately surrounding. It is in this manner, by the concurrent and coöperating actions of absorption and deposition, that the maxillary ridges attain ultimately the smooth, regular and symmetrical form noticeable when the changes are completed.

In view of the facts, just advanced, the inquiry suggests itself, how soon after the extraction of the natural teeth may an artificial appliance be introduced into the mouth consistently with the conditions at first existing, and the integrity of the new formations?

We are amongst those who believe that the best interests of the patient require the early introduction of artificial substitutes, in all cases demanding full dentures. By so doing, we are enabled to confer immediate and signal benefits, by preserving, in a great measure, the customary expression of the individual,—promoting easy and distinct enunciation,—assisting in the more perfect comminution of food, and by maintaining unchanged the habitual relation of the jaws. The very general recognition of these important advantages has led to great unanimity of opinion in regard to the propriety and necessity of inserting what are termed temporary sets of artificial teeth.

More recently, the policy of inserting artificial teeth immediately after the extraction of the natural organs, is being advocated. Although the practice is seemingly heroic and hazardous, the reasons for its adoption are plausible. It is claimed that the inflamed parts, being shielded by a perfectly adapted plate, are less subject to injury in munching food, than when uncovered, the pressure in the former case being distributed over a larger surface, thereby equalizing the forces applied in mastication. Some good is also doubtless accomplished in these cases, by protecting the wounded and inflamed structures from the irritating action of the atmosphere and from sudden and direct impressions of extreme heat and cold.

On the other hand, it is held that the pressure of the base

upon, and contact with, abraded surfaces already inflamed and sensitive, can not fail to aggravate existing morbid conditions. If such be the case, the practice may be fairly challenged; for any mode of procedure that would tend to increase the inflammation unavoidably present after the extraction of the teeth, or that would serve to extend it beyond the period of time when it should spontaneously subside, or that would interrupt, in any considerable degree, the reparative processes going on within the socket, is clearly inadmissible. . Observation has fully confirmed us in the belief, that active inflammation in the structures about the sockets, retards absorption and delays the completion of those changes which it is important should occur at the earliest period consistent with the natural operations of the economy. We have frequently noticed, as we have no doubt all have, who have given the subject attention, that in cases where even moderate inflammation of the parts, either from local or constitutional causes, has continued long after the usual period for its subsidence, that little or no absorption has taken place. As well as we can remember, all of those cases of unusual tardiness, where the gums have remained almost wholly unchanged for a period of several weeks together, inflammation of a somewhat intractable character was found present, the gums remaining somewhat turgid, with diffused redness and some tenderness on pressure. Whether the causes operative are systemic or local, the condition manifestly opposes the action of the absorbents, their functions, for the time being, resting apparently in abeyance.

Our experience does not justify us in expressing a positive opinion as to the propriety or impropriety of inserting a plate at the earliest possible period after the removal of the natural organs. If solicited so to do, we should have no hesitation, after having extracted the teeth, to take the impression during the same sitting, and proceed with the operation at once, although it has been our usual practice to defer it until the more active stages of the inflammation, and the soreness consequent thereon, had, in a great measure, subsided.

In all cases, where the substitute is applied at an early period, the cavities in the model, corresponding with the sockets of the teeth, should be filled up even with the surface of the ridge, that the plate when swaged may not project into the sockets, and prevent, by mechanical obstruction, the normal development of the granular formations which are essential to the integrity of all the parts, and which can not be interrupted in any considerable degree without influencing the ultimate form of the jaw. It is in this manner that irregularities on the surface of the ridge are often produced, and not, as is erroneously supposed, by mere pressure of the base, the inequalities on the surface of which produce corresponding impressions upon the ridge.

#### RUBBER WORK.

(Read at the January meeting of Mad River Valley Dental Society.)

BY GEO. L. PAINE, D. D. S., XENIA, O.

In accordance with an appointment made by this Society, at its last meeting, I proceed to discharge the duty imposed on me of reading an essay on "Vulcanite Work." I regret that this duty was not imposed on some other member, better qualified, by experience, to develop this subject, and impart to it the interest and attraction which it really merits.

We begin by saying that we must first have an accurate impression of the parts to be supplied by the vulcanite case. Accuracy here is all-important; for, however well the case may be constructed, a failure is inevitable, if the cast is incorrect. Hence, we take the impression in plaster, and aim to be careful and correct, in all our manipulations, that a satisfactory result may be attained. Having obtained a satisfactory impression, we allow it to stand and harden somewhat, then varnish it, and when the varnish has dried, oil and fill with plaster, so as to make the cast one-half or three-fourths of an inch thick, in the center, that there may be no surplus

plaster. When the cast is hard to our liking, we detach it from the impression, trim, varnish and cover with tin foil' being careful to remove all the creases, by rubbing the surface of the tin with cotton-wool, saturated slightly with oil, and finishing the surface of the tin with a burnisher. We then mould on this cast a sheet of gutta percha for our model plate, using it to get our articulation, and as a base on which to set the teeth, as we grind and fit them. Some prefer and use wax plates; but they are not so satisfactory in our experience as gutta percha. We obtain our articulation as for gold work, and when the same is ready for use, we select, grind and arrange the teeth on our gutta percha plate, filling in, and moulding on wax, to suit our fancy, being careful to have a surplus, rather than a deficiency of the same, so as to permit sufficient scraping, cutting and finishing, to give the case a smoother face, when done. Whenever practicable, we use, and prefer the block teeth, as they are stronger, and look more natural than single teeth. We must not forget to bend the platinum pins, giving them a diverging direction from the blocks, or teeth, so as to amply secure, or dovetail them in the rubber. In joining the blocks or teeth, very careful grinding is necessary, else the appearance of the work will be greatly marred by the gum, which is certain to ooze through imperfect joints. This may be prevented by filling the joints with "Osteoplastic," which we have found more valuable for this purpose than any other agent as yet tested. Now we are ready to try the case in the mouth, when any existing imperfection can be remedied.

If all is right thus far, we are ready to flask the case, which, when properly set, is put in the heater, and gently warmed up, and then separated and the plate and wax removed. We then heat up, till pretty warm, the flask containing the teeth, whereby the wax will be absorbed by the investment, and the case prepared for the reception of the rubber. Previously to packing the same, we cut it in long and narrow strips, and such other shapes as will be most convenient for packing, and

then lay them on a heated brick, covered with clean paper, so that the necessary plasticity will be imparted to the gum, to insure thorough packing. We should pack the case so full that there will be no fissures or defects in it when vulcanized, else the work may be so imperfect as to compel us to do our first works over. Having used as much gum as will fulfill the above indications, we then heat up the case holding the teeth, either in an oven or in the vulcanizer, till pretty warm, and then bring together the two flasks with a gentle pressure at first, and then heating again and pressing together again, alternately, till the flasks are closed tight together, when we are ready to submit the case to the action of the vulcanizer.

We should have remarked that before packing the rubber, grooves should be cut in the plaster for the escape of the surplus gum. To vulcanize, we fill our boiler with hot water till the case is covered, and then proceed to raise the steam till it reaches 330°, where we keep it for one hour, when the case will be generally as well vulcanized as if steamed for two hours and forty minutes, at 310°.

Our experience in constructing partial under sets, containing bicuspids and molars, has been rather limited, and so far, rather unsatisfactory. We find that the band passing behind the incisors, is liable to break, if reduced to such thinness as to remove the cumbrous feeling of fullness, and if left so thick as to exempt it from danger of breaking, the case becomes objectionable. Yet we doubt not that in efficient hands, this kind of case can be so made as to remove all objections.

In the construction of partial upper sets, we have uniformly succeeded, with little or no difficulty. In supplying the front teeth, we have found that, to prevent any unnatural fullness, the artificial gum should be in immediate apposition with the natural gum; and, to prevent the rubber from insinuating itself between the natural and artificial gum, we cut away all that part of the plaster cast lying immediately behind the artificial gum, and flow the plaster behind it, and under the anterior portion of the plate. By adopting this precaution,

and pursuing the plan above recommended, of setting the teeth, there need be no more fullness than in mounting teeth on gold plate. But where fullness is necessary to restore the face to its original contour, then the rubber possesses claims superior to any other kind of work in general use. Indeed, we can conceive of no case where rubber may not be as successfully employed as any other material; and in some cases, we do know that it is far superior to anything else. So far as we have the means of judging, it is agreeable, serviceable, and, therefore, satisfactory to the wearer, because it is light, cleanly, readily adapted, and economical, which, with a majority of our patients, is a desideratum.

These points conceded, and we can conceive of no good reason why they should not be, on a fair test, this style of work must, we predict, supersede, to a very great extent, all others now in vogue.

REPAIRING.—In this we have no experience, having, as yet, had no work to repair. But were a case of fracture, whether simple or compound, presented to us, we should have no fears about our ability to reduce it and restore the case to its wonted integrity. After giving the work as high a finish as possible, by using first our coarse files and cutters, following them with coarse, and then fine emery paper, and then finishing with brush and cotton wheels, we expose the case, in alcohol, to the action of the solar rays, by which the color is hightened, developed and perfected. This process may be continued with advantage for several days, provided time will permit.

When we come to "pass the Rubicon," by which we mean the insertion of the case in the patient's mouth, should it rock or ride on the hard ridge, we may secure a better adaptation by gently heating the case, and then bending it so as to fit more perfectly. This may be done with impunity; for, as soon as it cools, the case will be as inflexible as ever. If our work has been conducted throughout with care and skill, good results will follow, and all parties will be satisfied.

## Proceedings of Societies.

# MINUTES OF THE CINCINNATI LOCAL DENTAL ASSOCIATION.

CINCINNATI, Jan. 8, 1861.

Local Dental Association met pursuant to adjournment, at the Dental College, Vice-President in the chair.

Members present: Drs. H. R. Smith, Taft, Taylor, Richardson, Wardle, Wells, Kendrick, Wheeler, Cameron, Bonsall, James, Irwin and Davenport.

Minutes of previous meeting read and approved.

On motion of Dr. Richardson, the rules were suspended, for the purpose of hearing Dr. Taylor's paper on the Life and Character of the late Prof. C. A. Harris.

A vote of thanks was tendered to Dr. Taylor, and a copy of his paper requested for publication.

The committee on a Code of Ethics made a report, which was accepted, and discussed by most of the members present, and finally referred back to the committee, with instructions to re-report it (with alterations) at a called meeting, January 15, 1861.

The proposition in regard to a change in the name of the Association was then taken up, and discussed at length, by the members. Upon the final vote, the proposition not receiving the support of two-thirds of the active members, was lost.

Adjourned to meet on Tuesday evening, Jan. 15, 1861. T. F. DAVENPORT, Sec'y.

### Selections.

FIBRO-MELANOID TUMOR OF THE ANTRUM, REQUIRING THE EXTIRPATION OF THE ENTIRE SUPER-MAXILLARY BONE—OPERATION—RECOVERY.

By F. HINKLE, M. D., of Marietta, Pa.

March 9th, 1860. I was called to see Mrs. Wm. G., of Columbia, æt. 35 years, married, the mother of five children -the youngest three years old-and now thinks herself near three months advanced in her sixth pregnancy. She is of healthy parentage, and has always enjoyed excellent health until about two years since, when she was attacked with severe inflammation of the right lachrymal sac and its duct, for which she was treated by different physicians. About a year ago, she noticed a small tumor in the right nostril, which at first increased but slowly; recently, however, it has grown rapidly to its present size. It now fills the entire antrum, the right nostril, from which it protrudes externally, and by displacement of the septum, causes such occlusion of the left. that it is with some difficulty an ordinary probe can be introduced. The nose is much pushed to the left side, and the orbital cavity so encroached upon that the eye is displaced outward and upward, and rests against and upon the supra-orbit-The integuments of the brow are thrown into numerous wrinkles, and upon elevating and retracting the upper lid, the whole globe of the eye seems to stand external to and rest upon the surrounding parts. The pressure upon the nerve has destroyed the sight of the right eye. the pain has much increased in the part and she now suffers great inconvenience from the constant accumulation in the fauces, of a viscid secretion, so tough as to require frequent removal with the fingers to prevent suffocation. The distress from this cause is very great, almost entirely preventing sleep, which gives to the patient a very haggard and wornout appearance.

Being an intelligent woman, I informed her that nothing short of the entire removal of the disease could afford her relief, and fully explained to her the dangers—now greatly enhanced by her being enciente—of so formidable an operation and also the fact that should she survive the operation, the relief afforded might only be temporary, owing to the possibility of a recurrence of the disease. Satisfied that without relief from her sufferings, a speedy death was certain, she begged that the operation might be performed as early as possible, being "willing to suffer all things that her life might be spared even for a time to her little children." "In my case 'tis die dog or eat the hatchet," was her laconic, but expressive reply, to the artist to whom she was sitting for her picture the day previous to the operation, upon being asked whether she was not afraid of the result of so formidable an operation.

After mature deliberation upon her case, I decided to give her the benefit of an early operation, believing, from the rapid progress the disease had already made, that before the period of gestation would be completed, the poor woman would

be beyond the reach of help.

March 22d, noon. Assisted by Drs. Eher, of Lancaster. and McCorkle, of Columbia, the patient being placed under the influence of a mixture of three parts of ether and one of chloroform, I made a semilunar incision from the angle of the mouth to a point midway between the ear and the external canthus of the eye, ligated the facial artery, and proceeded with a rapid dissection of the parts. Just beneath the infraorbital foramen, I found the tumor protruding through the walls of the antrum, about the size of a dime. This being carefully dissected from the adjacent soft parts, I cleared the infra-orbital ridge and internal canthus, loosing the integuments as far as the tuberosity and median line of the nose, and while the flap was firmly retracted upon the forehead by one of the assistants, I separated the tumor from its attach-. ments within the orbit, as far as they could be reached. incisor tooth having been extracted two days previous, I now notched the alveolus and hard palate with the saw, and with one blade of the cutting forceps, carefully introduced into the nostril and the other in the notch, divided the bone with a single cut. The malar bone was next freely notched on its under border, and with one blade of the forceps in the notch, and the other in the orbit, was transfixed into the spheno-maxillary fissure, leaving the frontal and orbital processes as a future support to the ball of the eye, and then with one blade of the forceps introduced into the nostril, the division of the bony attach-

ments was completed by cutting through the nasal bones and nasal process of the maxillary into the orbit. Depressing the mass with my left hand, I divided the remaining soft parts with the scalpel, and removed the entire mass of the disease, except a small portion that was closely adherent to the sheath of the nerve at the bottom of the cavity. The parts were next sponged with a strong infusion of matico, which arrested the hemorrhage, after which every remaining particle of diseased structure was carefully removed. After suffering the cavity to remain exposed for some minutes, during which time it was freely sponged with cold water, it was filled with charpie, soaked in the infusion of matico, the flap brought down, and the operation completed by the introduction of five sutures of silver wire, by which the parts were admirably retained in situ. The patient was now removed to her bed, and cold water dressing applied to the part. Being much prostrated, a draught, containing brandy and spr. ammon. aromat. was ordered to be given occasionally, until reaction was established.

5 o'clock, P. M. Reaction fully established; brandy and ammonia discontinued, and brandy panada and milk and egg ordered as nourishment during the night. Patient complains of pain, for which quinia sulph. gr. 2 and morph. sulph. gr. \frac{1}{4}, in syr. acaciæ was ordered every three hours until relieved, and a lotion of liq. plumbi. subacetat. dil. and ext. belladonnæ, to be applied over the eye, around which there is some tumefaction and discoloration from effusion of blood. The patient was again seen by Dr. McCorkle, at ten o'clock, and being quite comfortable after taking two doses of the anodyne mixture, it was discontinued.

23d, 9, A. M. Patient has had several hours comfortable sleep during the night, from which she seems quite refreshed. Pulse 90; skin moist. Continue same dressings to the wound,

and use beef tea in conjunction with previous diet.

Being unable to see the patient more than once daily, she was taken charge of by Dr. McCorkle, from whom she received every attention between the times of my daily visits.

24th, 10 A. M. Patient is very weak; pulse 100, and feeble; complains of great nausea from the offensive discharge from the wound pouring into the throat; has vomited several times. I removed all the dressing from the cavity, and after washing it well with cold water, filled it again with lint soaked in the infusion of matico, and annointed with

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caster-oil to prevent its adhering to the part; continued the lotion and cold water dressing externally, and ordered diet of beef tea and milk-punch, and carb. ammon. gr. 2, and morph. sulph. gr. ½, every four hours, in mucilage. At 8 o'clock, P. M., the nausea and occasional vomiting continuing, Dr. McCorkle ordered a saline cathartic.

25th, 10 A. M. Bowels have been moved; vomiting less frequent, but nausea still continues; very weak. Beef tea and brandy to be taken freely, and continue ammonia mixture. At 4 P. M., Dr. McCorkle was summoned to the country, at which time our patient was much more comfortable. Late in the evening, she was induced by a friend to take some warm oyster broth, by which the dressing of the cavity was saturated, and a slight capillary hemorrhage brought on, which gradually increased until about midnight, when, the family becoming alarmed, the doctor was sent for. Finding that the patient was rapidly sinking, and that the readjustment of the dressings, and the introduction of fresh portions of lint, had only temporarily arrested the hemorrhage, I was summoned to his aid, and at 2 o'clock, A. M., of the 26th, found the patient almost in articulo mortis; pulseless, with blood oozing freely from both mouth and nostrils, and frequent retchings, as if to free the stomach of the blood which had found its way into that viscus. I immediately removed from the mouth and fauces large clots of blood, gave a large draught of brandy and ammonia, and as speedily as possible removed all the dressings from the cavity, and by sponging it with the strong infusion of matico, and refilling it with the charpie, saturated with that liquid, succeeded in arresting all bleeding. It is the opinion of Dr. McCorkle, that the patient had lost not far from three pints of blood, and so great was the prostration, that, notwithstanding the active administration of the strongest diffusible and nervous stimulants, her life was despaired of for some hours, during which time she passed from one state of syncope to another, with cold extremities and occasional convulsive paroxysms. There was also constant nausea and severe retching. was given freely, spice plasters applied over the abdomen, and sinapisms and hot alcoholic fomentations to the extremi-10 o'clock, A. M., nausea and vomiting subsided; patient comfortable, but very weak. Ordered wine and egg, and beef tea and brandy, and left patient in care of Dr. McCorkle.

27th,  $8\frac{1}{2}$  o'clock, A. M. Patient has rested pretty well since I last saw her. Complains of some pain in the wound in which there is now considerable tumefaction, and the areolar tissue around the eye is filled with and discolored by the blood effused during the efforts at vomiting. Apply cold poultice of elm bark, ext. arnica and powdered alum over the

eye, and continue cold water dressing to the wound.

From this time forward, there was no untoward symptom. The pain, tumefaction, and discoloration, gradually subsided. The patient being very anæmic, I prescribed syr. ferri et quin. cit., with good diet; stimulants as required, gradually substituting malt liquors for the alcoholic stimulants; the bowels kept soluble with mild laxatives when necessary, and the wound regularly dressed. The patient's health and strength gradually improved, and in six weeks from the time of the operation she was able to walk about the house, and, during the seventh week, walked two squares on the street, supporting herself on her daughter's arm.

May 23d, 10 o'clock, P. M. Dr. McCorkle attending, she was delivered of a male child, dead, of about  $5\frac{1}{2}$  months. Two days previous she had fever and swelling in her limbs, and from that time felt no further motions of the child. Immediately after her delivery, she said she felt "like a new

woman."

May 24th. Pulse 100; skin normal; no fever; tongue clean; appetite good; ate a piece of toast just before my arrival; complexion good; expression cheerful, and general appearance healthy.

From this time she steadily improved in health, and on

July 17th, visited me at my office; she says she now enjoys as good health as she has ever done; is quite cheerful, and were it not for a scar, resulting from the application of some escharotic by an empirical practitioner some months previous to my seeing her, would show but few marks of the severe operation to which she had been subjected.—Medical and Surgical Reporter.

STILL ANOTHER DEATH FROM CHLOROFORM—SHALL ITS USE CONTINUE?—A death from chloroform, at the Northampton Infirmary is recorded in the London Medical Times and Gazette. The patient was about to submit to an operation for the removal of a small tumor from the back. Chlo-

roform was administered cautiously. The testimony before the coroner's jury says that the effects of the anæsthetic were soon visible upon the deceased, who became insensible without anything unusual being observed, although he was closely watched. On removing him into a proper position for performing the operation, it was observed that his countenance was very much changed. The suspicions of the operators were at once roused, and immediate steps were adopted for bringing the man to his senses again, instead of commencing the surgical operation. Restoratives were resorted to, but to no purpose. Artificial respiration was then attempted, but this, too, was unavailing, and after an hour's futile endeavors at respiration, the deceased was reluctantly given up as lost.

We record this case, not from any peculiar interest that it possesses, but that it may be added to the long, dark list which now stands against chloroform. All statistics of fatalities from chloroform which we have seen, are inaccurate and far below the truth in their estimates, and we desire that every fatal case attributable to it may hereafter be presented. It is hoped that such cases, instead of being concealed, as they often have been, as if the unfortunate administrator felt guilty of homicide, will henceforth be published. We believe that, had all the deaths from chloroform been properly noted, a list could now be presented which would astonish most of the advocates of its use, and do much in future to prevent loss of life by causing the discontinuance of its administra-

tion.

The practice of administering chloroform is rapidly decreasing in this country, and we sometime ago predicted its discontinuance for general anæsthetic purposes, and the substitution of ether. If its use is not lessening in Europe, there is a growing want of confidence in its safety. The very caution with which European surgeons give it, shows that they use it with a consciousness of its danger. In the testimony of this case it was stated that the operator had the precaution to examine the deceased, "to ascertain if he was able to bear the effects of the chloroform." In the use of ether, which is now admitted to be almost absolutely safe, no one ever thinks of using such precautions, and it is now deemed admissable in any condition in which its anæsthetic effects are desirable.

We relinquished the convenient use of chloroform with re-

luctance. When deaths under its administration became frequent, we still hoped that greater caution in its use, increased study of its physiological effects, further knowledge of the conditions which contra indicate it, and a discovery of the constitutional idiosyncracies which make the administration fatal, would enable us to continue its use with safety. But the fatalities are now so numerous, as unexpected, and as inexplicable as ever. Patients in vigorous health, and under the most cautious hands, continue to die when but little of the vapor has been inhaled, and sometimes at almost the first

inspiration.

In the present state of our knowledge of the mysterious fatal influences of chloroform and its acknowledged uncontrollable mortality, we consider its ordinary use unjustifiable while an efficient and safe alternative for use is at hand. the profession do not discontinue its use, patients will soon refuse it. There is already, owing to its dangers, an increasing predjudice among the masses in regard to anæsthesia, in whatever manner produced, and if the use of chloroform, with its fatal accompaniments, continues, the popular verdict will condemn anæsthetics entirely, preferring to suffer pain rather than incur such a hazard of life.—Medical and Surgical Reporter.

#### THE RATIONALE OF THE ADMINISTRATION OF MERCURIALS.

By John C. K. CROOKS, M. D., of Middleburg, Va.

THE precise method in which mercurials act as remedial agents, has, until quite recently, been comparatively misunderstood. Writers upon materia medica, therapeutics, etc., have widely differed in their notions; while practitioners of medicine have administered this valuable class of remedies with indications often in direct antagonism. Cullen sets down the action of mercurials as "stimulant," "diuretic," "aperient," and "deobstruent." Armstrong, as medicines equalizing the circulation." Hooper, as having "two effects:" "one as a stimulus on the constitution and particular parts; the other, as a specific on a diseased action of the whole body, or of parts;" adding, as an evidence of the ignorance of its precise effects, that "the latter action can only be computed by the disease disappearing." Eberle, as "producing a new disease," "equalizing the circulation,"

"revulsive," "evacuant," etc. Wood and Bache, as "purgative," "alterative," "sialagogue," and "sedative." While Drs. Murray and Chapman, approaching more nearly to a correct perception of their true operation, class them among the tonics.

This multiplicity of testimony, even from authors of a recent day, it will be discovered, comes wide of a rational explanation of the modus operandi of those remedies, which have gained such a deservedly exalted reputation as reliable combatants of disease. Yet notwithstanding this evidence of what mercurials can do—this record of effects, they have all along been operating upon the human organism, in health and disease, with unerring uniformity. With the intelligent practitioner, some form of mercury has come to be considered the sheet-anchor in acute inflammations, particularly of serous and fibrous tissues. Popular prejudice will not do with the man who has the well-being of his patient at heart, and properly appreciates the value of this great anti-phlogistic remedy. When "this trembling house of clay" is invaded by such a grave disease as an acute inflammation of one of the vital organs, blood-letting, antimony, opium, etc., may come in for their share of the triumph; but the king who can rule the conflict, meet the indication best, is mercury. This, experience has taught us to be the case. Intelligently administered—given at the proper time and under proper circumstances-aided when aid is necessary, it never disappoints.

This being true, it is my object to point out the rationale of a class of remedies so invaluable, and yet so destructive, under certain circumstances, to those organs which it is the aim of the conservative dentist to preserve. In doing so I shall not claim to say anything new, (for I believe the field has been pretty well explored before me,) yet a new version

of the story may not be entirely unacceptable.

To make my subject clearly understood, I must first be allowed to consider briefly the two pathological conditions—congestion and inflammation. In performing this task, we must bear in mind the circulatory system, and with it the constituent elements of the blood—its rough anatomy, rather than its chemistry. In the investigations of microscopists, it has been ascertained that there are two "stages" in every case of active congestion: the stage of "incubation," and the stage of "actual development;" while in inflammation

there are three: the stage of "incubation," "active congestion," and lastly, (as in active congestion,) the stage of "actual development," or that pathological condition known as

inflammation.

To illustrate: let the web of a frog's foot be wounded while under the field of the microscope, and as the first result, there will follow an irregular circulation of the blood in the capillaries, which is neither congestion nor inflammation, but the immediate effects of the injury: probably upon the nerves of the part, and so through them upon the capillary vessels. This over—this irregularity—and there follows a short period in which every thing goes on in a normal manner, without any evidence of the violence done to the parts. This is termed the period of "incubation." Then comes "active congestion," evinced by an increased afflux of blood with an acceleration of its velocity,—by the distention and tensity of the vessels, the interruption of the secretion and absorption of lymph, the apparent agglutination of the blood-globules into masses, and tumefaction of the parenchyma of the web. This condition of things goes on increasing till inflammation is developed by the loss of capillary power, (contractility.) and the consequent dilation of these vessels, and from dilation the establishment of "points of stagnation" in the current of blood. Here, then, we get the morbid changes upon which active congestion and inflammation depend; the former consisting in an increased flow of blood to the part, with the consequences of such determination as already enumerated; while the latter consists in the dilatation of the capillaries from loss of capillary powers, and the formation of "points of stagnation.

To the inquiring physician this revelation of the microscope is pregnant with meaning, and if not already correct, must produce a revolution in all his notions of inflammation—cause him effectually to abandon the idea that this pathological state is "increased activity of the circulation." He thus revises his pathology; but, having seen the efficacy of mercurials, he does not throw them away for something imaginary and untried, to meet this new indication. No! But he studies anew and understandingly the manner of their operation, and sees at once that where he formerly gave mercury as a "revulsive," "to equalize the circulation," as a "stimulant," an "evacuant," etc., he now administers it to meet that important indication—the restoration of the TONE

of the capillaries. Reviewing the series of changes which make up inflammation—the order of sequence—he discovers that the first step to be taken is to restore capillary power. Venesection, he has been taught, will often do it. Antimony, he has learned, will frequently accomplish the end. Yet experience has shown him that, after blood has been drawn and antimony given till the volume of the circulation is reduced to a fearful extent, still that evidence of recuperation in the strength of the capillaries, so anxiously looked for, does not follow. In other words, the lancet has been used to empty the dilated capillaries, that nature might take advantage of the circumstances and come to the rescue. ture is worn out; there has been too great a conflict; more assistance must be given, and mercury completes the workcompletes it when nothing else will. If mercury is able to do this, how can we account for its action, save to point at what it invariably accomplishes, when it is able to accomplish any-

thing-namely, to RESTORE CAPILLARY POWER?

Such undoubtedly is the specific action of mercurials; and, keeping this principle in view, there will be a wonderful clearing up of many of the apparent inconsistencies, incongruities, and mysteries of their operation. Their "alterative" effect in chronic inflammations is immediately revealed. They correct the unhealthy state of the capillaries by causing them to contract upon their contents. As a promoter of absorption it is seen to be by their power to lessen the calibre of the capillaries—the diminishing the flow of blood to a part, and thus literally starving, (like tying the carotid artery for tumor of the antrum,) instead of giving energy to the absorbents. This specific effect, as we have seen, is upon the systemic circulation, yet it appears to be more powerful in that portion confined to the salivary glands and the mucous lining of the mouth. Here the intensity of the contractility excited is followed by a loss of tone, and a consequent relaxation and distension of the vessels—or inflammation; just as in chilblain, where excessive cold produces contraction to such an extent that a loss of capillary power is effected, and inflammation ensues. And here I might speak of the effects of cold upon the system when it is under the influence of mercurials, as further evidence in support of the doctrine given. That cold causes the capillaries to contract, no one will deny; still such contraction, carried to a moderate extent, as under ordinary circumstances, except in an individual mercurialized,

is productive of no unpleasant consequences. But when mercury has already produced contraction, the application of another agent, which has the power to contract the vessel still more, is followed by inflammation in the more susceptible tissues: in the fibrous, producing rheumatism; in the mouth, (from drinking ice water, for instance,) mercurial stomatitis, etc.

Thus I have endeavored, as briefly as possible, to give the rationale of the operation of mercurials, together with an explanation of some of the phenomena attending their administration. To go into further details would not be profitable in an article of this character. However, to such as may desire to pursue the investigation, I would most earnestly recommend the perusal, ay, study of "Billing's Principles of Medicine," a work replete with useful knowledge, both to the dentist and the practitioner of medicine.—Dental Cosmos.

ON THE USE OF LOOPED WIRE IN THE REMOVAL OF FOREIGN BODIES FROM THE AIR-PASSAGES, WITH A REPORT OF TWO CASES. By J. J. Tomson, M. D., of Davenport, Iowa.—Some time in the month of May last, a lad about eight years old, whose parents reside in this city, accidentally inhaled into the trachea a piece of clay pipe-stem, about one and a half inches long, and of large size. Dr. Maxwell saw the patient, and used the probang, hoping thereby to dislodge the foreign body and enable the boy to cough it up. After using the probang, with some other means, the boy was relieved and it was hoped that he had coughed the pipe-stem up, and perhaps swallowed it into the stomach. He was quite relieved for some six days, running and playing as usual.

On the sixth day after inhaling the pipe-stem, one of his playmates threw a stone which accidentally struck him upon the back. From this time he became rapidly worse, with all the symptoms of a foreign body within the air passages. A council of physicians was called, who agreed that there was a foreign body in the trachea, and that an operation was the only probable means of relief to the boy. The operation was performed by Dr. Adler, assisted by Drs. Baker, Maxwell, Fountain, and myself. After the operation, a variety of instruments and means were used, which were not success-

ful in removing the foreign body. In the afternoon of the same day, and the morning following, Drs. Adler and Maxwell made other attempts with no better success. On the afternoon of the second day, about thirty-six hours from the time of the operation, and more than one week from the time of the inhalation of the pipe-stem, I was requested by Dr. Adler to visit the patient, with himself and Dr. Maxwell. The patient was rapidly failing, and we felt that he would certainly succumb, unless the foreign body was soon removed. After trying the forceps, hooks, etc., I suggested the use of a looped wire. A piece of small wire, about two feet long, was obtained, and looped in the middle, of sufficient size to embrace the end of the pipe-stem (on the same principle as removing corks from a bottle with a string.) The patient's head being well thrown back, I proceeded to introduce the looped wire. On passing it down to the right bronchus, it came in contact with the foreign body. At this point, I raised the end which I held in my hand and pressed the end next the foreign body back toward the spine, so as to pass my wire behind the pipe-stem. The pipe-stem was firmly impacted in the bronchus, so that it required some force to push the wire between it and the walls of the bronchial tube. The wire was passed some two inches or more below the point of obstruction, and then, on gently withdrawing it, the loop came in contact with the lower end of the pipe-stem, which was thus easily removed. The orifice of the trachea was closed, and the boy made a rapid recovery.

On the twenty-fifth of last month, my partner, Dr. Maxwell, and myself were sent for by Dr. Carpenter, of Blue Grass, to assist him in removing a grain of corn from the trachea of a child about one year old. The operation was performed by Dr. Maxwell: after which I passed the loop of wire as in the other case. It was passed down the right bronchus, and passed quite easily the point of obstruction; and on its removal, it brought the kernel of corn into the trachea, which soon after made its appearance at the orifice, and was easily removed.

I wish to call the attention of the profession to this simple, cheap, and harmless instrument, from the fact that I believe it will succeed in some cases where nothing else will. It can be used with perfect freedom by any one who is acquainted with the anatomy of the lungs, in searching far into the air-passages for small bodies, with little or no risk of produc-

ing serious irritation. There are other cogent reasons for its trial which will suggest themselves to the mind of every medical man. I submit its trial, with the cases above reported, to the profession, hoping that it may be found of some service in such painful and unfortunate cases.—Am. Med. Times.

ADVICE WANTED.—Requests for medical advice are occasionally received by this journal from persons who are evidently not members of the profession, but who assume to be, perhaps for the purpose of getting it gratuitously. Such requests remain, of course, unanswered. As an illustration of this practice the subjoined, which has just been received, is presented:

"Mr. Editors,

A patient of mine is sufrine from the followinge aperancies he will take a ake in the stomake like a stomake ake until he throes of his vittals and then he gets better, and can eat until the stomake ake takes him againe and serves him the same way againe until nothing wont stay down-I relieved him onst best by mustird and number 6 also head ake bake ake in the loins and fever until it comes up-Will you anser to corespondance the best proscriptoine."—Medical and Surgical Reporter.

THIRD DENTITION.—Mr. Carre recently reported, at the Société de Biologie of Paris, the case of a woman, aged eighty-five, in remarkably good health, who after experiencing some pain in the gum had a left upper canine tooth to appear. At intervals of some months, the second incisor on the left side of the upper jaw, and the first bicuspids in the upper and lower jaws, on the right side, appeared.—Medical and Surgical Reporter.

DENTAL NEURALGIA.—M. Balloy prescribes for this: Acetate of morphia, Acetic acid. gr. ij. Eau de Cologne, - - - - 3 ij.

To be dropped on cotton or wool and placed in the ear on

the painful side.

FIRST DENTITION.—May 11.—Case 2.—A negro child, aged 8 months; affected with diarrhea from teething. Diarrhea, properly speaking, is not the name of a disease, but the term by which one of the enteric diseases is known.

The period of first dentition is that fraught with more danger than any other, in the life of children; particularly

when it occurs during the warm season.

The danger is still farther increased by epidemic influence, tending to the production of enteric disease in whole neigh-

borhoods, which often exists.

At this tender age the system is naturally impressible, and any source of irritation so disturbs the functions of the nervous system that irritability of the more excitable tissues is induced, which require only a slight cause to establish in them positive inflammation. The alimentary mucous surface is very susceptible to such disturbance from the irritation produced in the gum by a protruding tooth. In addition to this, various forms of functional derangement are set up by reflex nervous action or sympathy, taking their origin from these local points of irritation or inflammation. The brain itself is not unfrequently the subject of functional derangement, the symptoms of which become so prominent, that they are frequently mistaken for those of meningitis, effusion, &c.

The indications in the treatment of such cases are: firstly, to remove the primary source of irritation, by a free incision of the gum; secondly, to allay the enteric irritation, which is more readily met by such means as will quiet general nervous irritability, restrain as much as possible the frequency of the evacuations, and soothe and protect the tender surface from the contact of irritating substances in the canal—these means are opiates, astringents, and demulcents.—At-

lanta Med. and Surg. Journal

FACIAL NEURALGIA THE RESULT OF CHRONIC RHEUMATISM.

—This patient some of you have seen before, when walking the wards with me. (See Reporter of September 1st.) He came here on the 18th of last month, is a seaman, and had been ailing for some time with chronic subacute rheumatism, stiffness of his joints, and difficulty of motion. But what at-

tracted our attention more particularly was, that he could not close his right eye, could not move with ease the right side of his mouth, could not whistle, that is to say, he lacked the power of co-ordinating the muscular motions necessary for

that performance. He had no pain.

In cases of this kind it is of the utmost importance to determine upon what causes this loss of power depends. It may be owing, as in this case, to some rheumatic affection, perhaps thickening of the sheath of the nerve; then it is simple local paralysis; or it may depend upon cerebral lesions. In regard to prognosis as well as treatment, a correct diagnosis is ne-

cessary.

Now, this patient has no headache, he sleeps well, he has perfect control over his tongue, showing that the hypoglossal nerve is not affected, the orbicularis and levator palpebræ on that side act well; in short, the absence of any symptoms, except the local loss of power, sufficiently marks the case as one not very grave. The treatment has been anti-rheumatic; iodide of potassium, blistering behind the ear, and a pill two or three times a day, composed of half a grain of extract of nux vomica, two grains of sulphate of quinine, and the same quantity of powdered alum.—Medical and Surgical Reporter.

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Smoking and its Effects.—The pupils of the Polytechnic School in Paris, have recently furnished some curious statistics bearing on tobacco. Dividing the young gentlemen of that college into groups, the smokers and the non-smokers, it is shown that the smokers have proved themselves, in the various competitive examinations, far inferior to the others. Not only in the examinations on entering the school are the smokers in a lower rank, but in the various ordeals they have to pass through in a year, the average rank of the smokers had constantly fallen, and not inconsiderably, while the men that did not smoke enjoyed a cerebral atmosphere of the clearest kind. It would be interesting to pursue this kind of statistical inquiry in our public schools and universities. Perhaps smoking is, in many instances, not the cause, but the effect or indication of intellectual mediocrity. Is there any connection between smoking and German metaphysics?— London Lancet.

ON THE ILLUMINATION OF THE CAVITIES OF THE BODY BY MEANS OF ELECTRICITY.—By M. Fossagrives.—A long time ago, the author had conceived the idea that the electrical light might be advantageously substituted in diagnostic researches, or in operative manœuvres, for the ordinary methods of illumination, which are either insufficient in intensity, or defective by the color of the light, or embarrassing by the impossibility of using them without interfering with the space required for instruments, and by the necessity, on account of the heat evolved, of keeping the light at a great distance from the surface to be illuminated. The whole problem consisted in discovering a source of light, with little or no caloric action, which might be condensed in tubes of small size and of diversified form, and which would be of sufficient whiteness not to alter materially the color of the organic textures lighted up by means of it. By the assistance of M. Th. du Moncel and M. Ruhmkorff, this problem seems to have been solved in a satisfactory manner. M. du Moncel, having observed that the vacuum tubes of Geissler do not become heated under the influence of the electric light transmitted through them, and knowing, moreover, that this light is more brilliant in proportion as the tubes of communication between the terminal balls of the apparatus are of a smaller diameter, suggested that, in taking an apparatus of that kind, in which a long tube, almost capillary in size, should be bent upon itself, and convoluted in the manner of the electro-magnetic multipliers, we might obtain not only a kind of luminous cylinder, capable of being introduced into narrow cavities, but even a kind of electrical beacon on certain points of which the light might be concentrated, without any risk either of over-heating or of commotions of any kind. The first part of the problem was, therefore, solved. With regard to the color of the light in the tubes, as this depends entirely on the nature of the gas on which the vacuum has been made, and as the color is white, with certain mixed gases, as carburretted hydrogen, carbonic acid, hydrochloric acid, etc., all that is required to meet this part of the problem is to prepare the tubes with suitable gases. M. Ruhmkorff, to whom the construction of these tubes was entrusted, and who has introduced several improvements in their formation, has obtained results which are quite satisfactory. He has found out a mixture of gas, which gives a suitable white light in the tubes; and experience has shown that the amount of light afforded by the apparatus is more than sufficient for the requirements of medicine and surgery.

Without for the present tracing absolutely the field of application of this new means of illumination, the following may nevertheless be pointed out:-1. As a means of diagnostic exploration, in the examination of accessible organic passages, for the purpose of recognizing their normal or pathological 2. As a means of illumination to assist experimental action. It is easy to foresee the utility of this means in those operations which present, among their greatest difficulties, the impossibility of lightening up suitably the surfaces on which instruments are to act. In particular, the following will derive advantage from this new application: 1st, Staphyloraphy; 2d, Operations for vesico-vaginal fistula; 3d, Extirpation of naso-pharyngeal or uterine polypi. 4th, Excision of the tonsils, etc. Certain dental operations, also, may be expected to be rendered more easy of execution by this proceeding. It may be questioned, also, whether the field of the retina might not be illuminated more easily and completely by the same means.—Acad. des Sciences, Jan., 1860.

Special time, existed among the ancient Egyptians, for Herodotus speaks of their having doctors for almost every part of the body, of which the eye and other organs are particularly mentioned. Our specialism would seem then, to be merely a revival of an ancient though not enlightened practice.—London Lancet.

Lancing Gums.—By Julius Dienelt.—Having read an article on lancing gums, by Dr. J. D. White, in a previous number of the Dental Cosmos, in which he advocates lancing the gums before extracting teeth, and knowing how indispensable it is to do so, we would give the following case in illustration of the aforesaid. It happened to us but a few weeks ago:

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The patient being a youth about sixteen years of age. He applied to us for the extraction of the first right inferior molar. As the tooth in question appeared to be set very firmly, we lanced the gums well all around, except between it and the second bicuspid, where we could not get with our lancet;

the forceps were applied, and the tooth drawn quite readily. Upon examining the tooth, however, we were surprised to see the bicuspid firmly united to it, by a flap of hard granulated gum; both teeth had thus been drawn simultaneously. So firmly was the gum united to both teeth, that it required considerable force to cut it loose from them.

The tooth thus accidentally dislodged proved to be perfectly sound, so that we thought it best to slip it back into its sockit, requesting the patient to inform us in a short time how the tooth was getting on. Up to this time the tooth is doing well, and has become quite firm again. We have made up our mind, since this occurrence, which at the time we regretted very much, to be more careful than ever to lance the gums well before extracting teeth.—Dental Cosmos.

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SYMPTOMS OF ANÆSTHESIA AND ADMINISTRATION OF AN-ESTHETICS.—Lecture IV., Tuesday, May 22, 1860.—Dr. Richardson, after a brief résumé of his last lecture, opened the present lecture by proceeding to explain the phenomena of anæsthesia, and the different actions of anæsthetics. With regard to the class of narcotics that produce their effects by catalysis, of which class chloroform at present stands first on the list, these are absorbed by the blood, and remain for some time in the system; they are gradual in their effects during their action, not only during the successive periods or stages of insensibility, but during those stages also which mark re-Those narcotics, again, which produce their effects by negation, and of which we may take carbonic acid gas as an example, are different in their effects, there being no distinctly progressive advancement through defined stages. Insensibility is quickly and suddenly produced by these, and the return to consciousness, when it occurs, is almost immediate and perfect. Dr. Snow describes chloroform as giving four successive degrees in producing its effect upon the patient. The first degree is that of excitement; this stage lasts from one to two or three minutes; it is attended by a resistance of the muscles. The second degree is attended by tendency to, or by actual convulsion and violent action of the heart; the pulse is always quick and small, and the patient often gets violent and very loquacious; patients, nevertheless, on their

return to consciousness, rarely have any recollection of what they have said or done in this degree. The third degree is attended by the complete annihilation of consciousness and movement; the muscles are relaxed; the pulse is at first full and quick, then moderately slow, until it subsides into the natural pulse; the eyeball is rolled up; "and it is worthy of notice that when this last fact occurs in the administration of any anæsthetic, it is a sure sign that the patient is ready forthe performance of an operation." The recovery from this stage generally takes place within four minutes. The fourth degree is attended with very great prostration; the breathing becomes stertorous and noisy; there is an entire paralysis of the body, and, occasionally, spontaneous evacuations. This stage is very dangerous, and is seldom employed unless great relaxation of the muscles is required. Dr. Richardson on this occasion subjected a dog to the vapor of chloroform, and kept the animal in it until the fourth degree had commenced; he then removed the dog, and its stertorous breathing was plainly audible.

Ether has a prolonged first degree, and a very short second; and we can go no further than the third without destroying life; the pulse is excited throughout every stage; the eyeball rolls up in the third degree as in chloroform, but the breathing is more difficult, and on the whole there is a greater appearance of drunkenness than under chloroform.

The administration of amylene is attended with scarcely any excitement, either mentally or physically, the patient sinking rapidly into the third degree. The great difference between chloroform and amylene is, that there is less perfect abolition of consciousness during the administration of the

latter. (Vide Lecture I.)

Carbonic oxide, fumes of Lycoperdon, and Dutch liquid, produce nearly the same phenomena as chloroform. Olefiant gas is more slow; and opium differs in having a long first de-

gree, no second degree, but a very long third degree.

The reason of anæsthetics producing sickness seems to be that they are brought by the blood to the mucous membrane of the stomach, there to be eliminated and evacuated; their presence there causes the irritation. Dr. Richardson related an experiment he had made with reference to this: he killed a rabbit with chloroform, and afterwards produced complete anæsthesia on a mouse by merely confining it in a chamber with the rabbit's stomach, thereby thoroughly proving the

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presence of chloroform. Sulphuric ether, carbonic oxide, fumes of Lycoperdon, Dutch liquid, and monochloruretted Chloride of Ethyle, have the same effects as chloroform in producing sickness. Amylene differs, there frequently being no vomiting, and when it does occur, it is very slight. It is almost an impossibility to procure an anæsthetic that will not cause sickness; but if we could get one, it would be invaluable, as sometimes the vomiting is very serious. In one case on record, a patient vomited for no less a time than sixteen hours. With regard to a remedy for this sequence of anæs-

thesia, opium is the best.

After taking all these anæsthetics and their phenomena into our consideration, we must come to the conclusion that there are none at present equal to chloroform; not because it is the least dangerous, but because it is easily inhaled, and because there is never that perfect rest and quiet with other anæsthetics that there is with chloroform. With ether, the patient constantly begins to rally before the operation is finished. Dr. Snow was once asked why he used chloroform in preference to sulphuric ether, or other anæsthetics less dangerous? His answer was, "that he used it for the same reason that he used a lucifer match instead of the old tinder box; not because it was the least dangerous, but because it was the most applicable."

A question that is very frequently asked is—Will eventually any other anæsthetic supersede chloroform? Dr. Richardson is of opinion that that may be the case; Dutch liquid and amylene—the latter would be the best if we could get it pure—are, in fact, nearly equal to chloroform. There is no doubt but that great advantages would be derived by entirely excluding both chlorine and oxygen from the composition of

an anæsthetic.

In reference to the question, whether it is necessary to examine a patient previous to administering chloroform? Dr. Richardson expressed an opinion that it was very necessary; differing in that respect from Dr. Snow, who said that no examination was at all necessary, and for his (Dr. Snow's) part, he always left it to the Surgeon indiscriminately; his practice teaching him that when an operation was justifiable, narcotism was justifiable. Out of 4,000 cases in which he had administered chloroform, only one death occurred. For all this we must remember that an examination should be made, as it can do no harm, and may be the means of pre-

venting evil. Further, Dr. Richardson did not approve of the administration of chloroform in simple operations—as, for instance, the extraction of a tooth—as a general rule, but only in great operations, where operative proceeding is neces-

sary for the saving of life.

Previous to the administration of an anæsthetic, attention should be paid to the diet of the patient; it should be a rule, never to administer the vapor until two hours after food has been taken into the stomach, or severe vomiting may occur. The last meal that is taken previous to inhalation should be a light one: a glass of sherry or brandy may be administered without any harm, previous to the inhalation of the chloroform; in fact, it will do good if the patient is nervous. The proper position for the patient is a semi-recumbent position; and after the patient is once placed in the position he is to occupy, he should not be moved, as movement is apt to cause faintness. In one case that Dr. Richardson witnessed of an operation on the lip under the influence of chloroform, they laid the patient down, causing him to faint immediately. The reason of this is, that change of position always alters the pulse. Thus, the pulse which would give in an upright position seventy-five beats in a minute, would give in a sitting position seventy, and from sixty to sixty-four, in the horizontal position.

The mode of administration of chloroform was important. Professor Simpson never administered it but on a handkerchief or napkin: but this is a very dangerous practice, and can not be too strongly reprehended; it is objectionable on many grounds, for some people take in more air than others in inspiration, and it is impossible to tell how much the patient is inhaling. By this method, also, a large portion of the chloroform escapes, and mingles with the atmosphere, to the annoyance of the operator; but, perhaps, the greatest argument against this method of inhalation is, that out of the whole number of deaths that have taken place during or from the administration of chloroform, there are only ten fatal cases where a proper inhaler was used; in all the other cases the chloroform was administered on a towel, handkerchief, or napkin. In one case of a boy that died recently while under the influence of chloroform, it appears that the operator laid a handkerchief containing chloroform over the boy's face while proceeding to operate. The boy died from deficiency of air and excess of chloroform, both causes acting together.

Having come to the conclusion that chloroform ought to be administered by an apparatus, the question arises, which apparatus is the best? Dr. Sibson's mouthpiece is a very good one, but Dr. Snow's inhaler is the very best. It consists of an inner and outer case; the outer case is filled with water, and by this simple arrangement the chloroform is always kept at a uniform temperature, which is a great point, but the chief feature of this inhaler is, that it regulates the inhalation; it is of little consequence what amount of chloroform is put into the instrument, as the patient can breath no more than 5 per cent. at any time. Two drachms is a very good quantity to put in to commence with, and is generally sufficient to produce anæsthesia; afterwards, eight or ten minims added every three or four minutes, will be quite sufficient to keep the patient in the narcotized state.

In one case in which Dr. Richardson administered chloroform, he kept the patient (a tall man) in an anæsthetic state for thirty-seven minutes, and only used three drachms of chloroform from beginning to end; had he wished to keep the patient insensible for that time by the handkerchief process, he

would probably have had to use at least two ounces.

Ether is best administered on a sponge. Dr. Hayward was

the first to introduce this method.

Amylene is usually administered in quantities of four drachms; frequently, however, from eight to ten drachms will be required to produce the desired effect. Dr. Snow's chloroform inhaler is the best that can be used for this anæsthetic.

Dr. Richardson here particularly requested the attention of his auditors to the following necessary rules to be observed by the operator in the administering of an anæsthetic.

In chloroformization, the first and second degrees are the most dangerous; in the first degree, be careful to watch the effects of the chloroform in relation to production of cough and irritation of the throat; if these occur, remove the chloroform for a moment. In the second stage, observe for convulsion; and if that is great, remove the chloroform. As the third stage comes on, observe the eye of the patient, for the first indications of the ball rolling up. The finger must be kept all through on the pulse; and if any cessation is felt, withdraw for a moment the narcotic. In giving chloroform, every sense must be trained; the eye, to see expression and action; the touch, to determine the pulse; and the ear, to

seize as acutely as possible the breathing of the patient, and to ascertain whether the respiration is in any way impeded.

Lastly, there are two indications which show that the patient is ready for operation; when the eyeballs are turned upwards, and there is no flinching on touching the eye, insensibility is complete, and the operator may proceed, cito et tuto.—Dr. Richardson's Lectures, reported for the Dental Review.

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Short Method of Procuring Plaster Impressions for Partial Sets.—By D. B. Ingalls.—Take an impression in wax in the usual way, using an impression cup large enough to take in the remaining teeth, as far back as is necessary, and a little more of the palatine arch than you wish your plate to cover. Then with a heated knife cut out a cavity in the wax impression the size you intend to make your plate, trim the wax, in making the cavity, as near the depressions made by the remaining teeth as necessary, to get a perfect plaster impression, and then the remaining wax will be a sufficient safeguard to keep the plaster from flowing around the teeth.

When the wax impression is prepared to suit, (and the preparation may include the "wooden fibres," etc., if necessary,) fill the cavity made in it, with this plaster, replace it in the mouth, and allow it to remain until the plaster becomes quite hard.

If you have done all with care, you will have no difficulty in removing the impression from the mouth, and can hardly fail of having an accurate impression.—Dental Cosmos.

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RETENTIONS OF THE SALIVA.—Catheterism of the Duct of Steno upon a Patient Affected with Mumps.—Translation by C.—The 28th November, 1859, I was called to M. W., aged twenty-two years, attacked twenty-four hours before with mumps on the right side. The parotid gland, hard and swollen, formed a relief behind the ascending branch of the inferior maxilla. It was painful to the pressure. Yet the patient could still open the mouth sufficiently to permit the orifice of the duct of steno to be distinguished. Around this orifice

the mucous membrane was dry; the papilla at the top of which it opens, was projecting and distended. I introduced to a considerable distance into this duct a little silver probe, to which I had previously given a slight curve, so as more easily to pass round the edge of the masseter. The probe being drawn out there immediately issued a considerable quantity of viscous and ropy saliva. At the same time, the volume, as well as the consistence of the parotid very sensi-

bly decreased.

In questioning the patient as to the manner in which this parotiditis could have been produced, I was not able to ascertain any other cause than a sudden transition from warm to cold. Now it is from the same cause that the formation of certain idiopathic tumors of the duct of steno is to be referred, which tumors give rise to an acumulation of saliva, then to an abscess, and at last to a salivary fistula. It was thus in the observation of Mours: "A young man of a delicate temperament, after a horsekack ride during a cold night, was attacked with a fistular tumor in the middle of the left cheek." (Mem. de l'Académie de Chirurgie, t. ix, p. 66.) It was the same with two cases of salivary tumor, followed by fistula, which I have had opportunity to examine, and one of which I have published. (Monit des Hôpitaux, 15 November, The impression of cold is then sufficient to produce, sometimes an engorgement of the parotid gland, and sometimes an accumulation of saliva in a portion of the duct of steno, with a distention of this part of the duct. Actual observation shows that, in similar cases, the catheterism of the duct of steno, performed near the beginning of the disease, will favor the cure by giving an outlet immediately to the accumulated saliva.—(Répertoire medicale.) L'Art Dentain.

Another Death from Chloroform.—Dr. Fano reports the history of a patient in the Gazette Hebdomadaire, of November 30, who died from chloroform. The patient had been suffering from incurvature of the toe-nail, and Dr. Fano put him under chloroform for the purpose of relieving the incurvation of the nail by that very painful operation, originated by Dupuytren. Everything was favorable for the inhalation: the patient was in the horizontal position, on a bed opposite a large open window. The charpie wet with chlo-

roform did not obstruct the mouth, being applied only to the nose. Dr. Lombard assisted in watching the pulse. The patient soon became insensible, when Dr. Fano proceeded with the operation. When he had torn out the nail the patient gave a groan, when Dr. F., looking at his face, found it pale, his pulse at the wrist extinguished, and no pulsation of the heart. Various means were used to resuscitate the patient, as dashing cold water in his face, washing his face with vinegar and water; artificial respiration was also practiced. After the lapse of some moments the patient made three or four respirations, without any return of the pulse, or any intelligence. All means were used, but without success. After some minutes the lips became violet, but this color was not present at the moment when attention was called to him by his groaning. "The autopsy was made by Dr. Tardieu, who found old adhesions between the lungs and thoracic walls to a great extent, and a pulmonary apoplexy."

The editors of the Gazette Hebdomadaire, from which journal we have taken the main facts of this case, make the following remarks on it: "It appears evident to every one after reading this history, that our confrères took all the necessary precautions to ensure safety in the inhalation of the anæsthetic: open windows, horizontal position, the chloroform administered in small successive quantities, incessant watching of the pulse, etc. Still further, when the dangerous results manifested themselves, they did what science and experience counsel, to avert the catastrophe. Their conscience may then rest calm in the face of an event so terrible."

Is it not about time that chloroform should be laid aside? Can any one pretend to lay down rules for its safe adminis-

tration?—Cincinnati Lancet and Observer.

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THE following from the editorial of the Am. Med. Times contains thoughts worthy of the attention of all classes and professions.—[Ed. Register.

THE ROLL OF CRIME.—During the year 1860, just closed, 116 citizens of the city of New York died by the hand of violence. Of this number, 59 are recorded as homicides, and 57 as suicides.

The problem of the prevention of crime has taxed the ge-

nius of the wisest statesmen and the most experienced philanthropists. To this end the penitentiary, the prison, the rack, and the gallows have been established, but as vet without avail in completely restraining the vicious. With reference to homicide, this question presents two phases: 1st, The removal of the cause of crime; 2d, The punishment of the criminal. It will surprise no one to learn that on investigation it appears that in the great majority of cases of homicide, intemperance is the cause. In this city, so distinguished for its "rum for the million," it supplies the animus to the criminal, however thoroughly his plans are premeditated, in nine cases out of ten. This fact is so patent to every observer that it needs no illustration at our hands. But one plain, simple, practical question presents itself to the legislator, viz. shall this prolific cause of the most heinous crime known to human society, be removed? On the answer to this question depends the length of our criminal calendar. We are aware that many difficulties tend to complicate its settlement in the affirmative, but we are also aware that these obstacles have been met by other communities, and resolutely overcome. The results of such legislation have always been of the most cheering character. Penitentiaries, prisons, and almshouses, have been deprived of their occupants, and even courts have met to adjourn without a cause on their criminal calendar. No man can doubt that if during the year upon which we have entered, not a drop of spirituous liquor was drunk by the people of this city, our almshouse, hospitals, and prisons would be emptied of nine-tenths of their present number of inmates, and our criminal statistics for the year would be reduced 99 per cent.

In the correction of criminals, the first impulse of government was to appeal to the fear of men, and hence have been instituted the most frightful punishments. While the more simple offenses growing out of avarice and kindred propensities were thus checked, the more heinous crimes, which are the result of violent and intensely stimulated passion, received but little restraint. Subsequently a more philosophical study of criminal jurisprudence discovered the fact that vicious men are restrained rather by the certainty, than the severity of punishment. This led to important discriminations in the degrees of crime, and corresponding modifications in the severity of the penalties. This principle should never be lost sight of in legislation for the suppression of

crime.

But with the progress of human knowledge and practical Christian philanthropy, new opinions have been formed of man's moral nature, and of his relations to his Creator and his fellow men, which are yet to lead to the most important modifications of our criminal laws. The question, should not all punishments be so modified as to be reformatory of the individual? is already receiving a practical solution in many States. The final prevalence of the conviction, that the period of restraint of the criminal should be taken advantage of by the State for his reformation, that he may be returned to society a good citizen, will be the grandest triumph of a Christian civilization.

The prevention of suicide involves also two points, viz. 1st, The removal of its causes; 2d, The removal of the means by which it is accomplished. The alleged causes of suicide are numerous. They are insanity; intemperance, melancholy, disappointment, revenge, &c. If, however, each case were carefully investigated, we doubt not these causes with due discrimination might, for the most part, be reduced to one, viz: insanity. The researches in psychological medicine have established the fact that insanity lurks in the community in concealed forms; while all are cognizant of its sudden development in the perpetration of shocking There can be no doubt that many who are actively engaged in business, or walk the streets, or mingle in society, have those mental proclivities which the most trifling perturbating causes would so unbalance as to lead to personal viclence. Most physicians can recall instances of the selfdestruction of persons, who, on reflection, they recollect have exhibited many singular peculiarities to which they did not attach sufficient importance. Toward this class of suicides our profession has a most important duty to perform. They should be more thorough in the investigation of the secret springs of melancholy, disappointment, or other disturbing influences of the mind and passions, and so far as possible remove them. Had this been done in numerous cases recorded in this list, it is evident many lives would have been saved. and much human suffering and misery prevented.

Of the means by which suicide is perpetrated, there is but one class over which we have control, viz: poisons. The law of this State is now sufficiently stringent to prevent the sale of poisons to irresponsible persons, provided it is enforced. But it is a melancholy fact that of these fifty-seven

suicides, twenty-four accomplished self-destruction by poisons. On the druggists of New York falls the fearful verdict of TWENTY FOUR MURDERS IN THE YEAR 1860. What answer have they to make why sentence should not be pronounced?

How to Remove Amalgam Fillings.—A short time ago I met Dr. E. Meader of Bermuda, formerly of New York. During our conversation we naturally came to speak of our profession, in the course of which he said to me that during his residence in Bermuda he was often called upon to remove Amalgam Fillings, and to replace them with gold ones. operation is a tedious one, as it is well known to every dentist: therefore, he came to the idea that perhaps by applying some mercury to the surface of the filling, previously well cleaned, it would become reabsorbed, and would in a few minutes time soften the old amalgam. Having made a trial, he found it to answer his most sanguine expectations. He used it in the following way. He first made a little tube with wax to act as a conducting channel for the mercury, this being filled up with a little mercury, and the surface of the filling being well cleaned and scraped, he rubbed upon it a little diluted sulphuric acid, which would favor the amalgamation, then, when all is ready, he applied his tube filled with mercury to the surface of the filling. Having tried this, I have found it of inestimable value in removing these execrable remnants of a past age. - New York Dental Journal.

# Correspondence.

Messes. Editors:—The vulcanite controversy is becoming quite warm and exciting. The New York Dental Journal for January, is taking part in the discussion,—thus adding to the publicity and interest by new facts and disclosures—

makes it assume the shape of a triangular fight, and gives it the appearance of a "discooshun wid sthicks."

I have read the controversy so far, including that lengthy rejoinder of Mr. Toland which he denominates, under certain circumstances, "a bore," and in view of the whole matter have been led to ask myself what many others no doubt have asked themselves or their friends, "What may all this be about? What is the motive on the part of the contestant, seeing that he is not a practitioner?" and in answering the question have been led to the conclusion that either he is fond of litigation for the sake of the excitement, or that he has a constitutional dislike to direct taxation where the necessity or right to impose such is not clear and indisputable.

Now, the first he would hardly be disposed to gratify at an expense of time and means such as it would necessarily entail, and therefore I incline to the latter as the true explanation or solution of the question. If I am correct in my conclusion as to motive, and the patentee can not substantiate his claim to the monopoly of this substance, then Mr. Toland will not only deserve, as he has already received, the thanks of the profession for his bold and determined resistance, but some more tangible evidence of their appreciation of his devotedness to, and sacrifices for their interests, and such he should receive promptly.

In the Philadelphia Directory for 1861, which is just out, the publishers have introduced a new feature, that of making a separate list of dental practitioners, under the head of "Dentists who have received the degree of Doctor of Dental Surgery. (D. D. S.)" (The list, however, is unfortunately imperfect, containing names of practitioners in the city who are not graduates, omitting others who are.)

This is making a distinction which may or may not result in good, but I can see no just ground for complaint; for it is altogether a proper recognition of those who have devoted their time and means to the thorough acquirement of their profession; and the public, who are thus informed of the existence of such an institution as a Dental College, have a right to know who its graduates are. And again, it is to be hoped that these graduates will be spurred up to greater proficiency and thus reflect honor upon their alma mater; by all of which, the reputation and standing of the profession will be enhanced and the people come to recognize the importance and the true mission of the dentist.

The most that can be said against it is, that it may possibly provoke some bitterness and antagonism to the school, on the part of some of those who are not graduates—but I can not see why—and which of course is not to be desired; but there need be no fear that old practitioners will take offense, as their reputations were made before the school was in existence. I therefore conclude that good must result from this very public recognition of the existence of a dental college, and of its graduates in our community, and as it has more than a local interest, I note the fact here.

What progress is the Harris testimonial fund making? I have seen no report of progress as yet. It is every way desirable that every practitioner at home, also those in Europe, should have this matter urged upon their attention, that they may have the opportunity of contributing if so disposed; therefore, this notice. Yours, O. U. C.

Philadelphia, January 19, 1861.

PROGRAMME FOR THE SEVENTEENTH ANNUAL MEET-ING OF THE MISS. VALLEY ASSOCIATION OF DENTAL SURGEONS:

- 1. Reports of Officers.
- 2. Reports of Committees.
- 3. Election of Officers.
- 4. Reading of Essays and Papers.
- 5. Presentation of new Business.
- 6. Discussion of the following subjects:
  - I. Professional Ethics.

II. Structure and Nutrition of Dental Tissues.

III. Reports of Cases—Written or Verbal.

IV. Filling Teeth.

V. Mechanical Dentistry—
Continuous Gum,
Vulcanite Base,
Gold Work.

The Executive Committee beg leave to offer the above order of business for the next meeting of the Mississippi Valley Association, Feb. 20th, 1861. Let every member be there, and induce some others to come for the first time.

Respectfully submitted.

# Editorial.

### COMMENCEMENT EXERCISES.

THE Commencement exercises of the present course of the Ohio Dental College will be held in the first lecture room of the College, on Wednesday evening, Feb. 20th, at  $7\frac{1}{2}$  o'clock. All the members of the profession and friends of the institution are cordially invited to be present.

T.

### MEETING OF THE MISS. VALLEY ASSOCIATION.

THE regular annual meeting of this association will take place on Wednesday, Feb. 20th, at 10 o'clock, A. M. We hope there will be a full meeting. It always gives us much pleasure to meet with the members of this association. We are always anxious to enjoy its meetings, and always sad at the time of its adjournment.

It is the oldest dental association in the world; other associations came into existence, became superannuated and died, or fulfilled their mission, and passed out of existence. The Mississippi Valley Association differs from all such, in this, that it is never weary nor exhausted in doing good work, and it does not become superannuated, for it works more vigorously now than ever before; it seems to be constantly renewing its age, and gathering strength, for the accomplishment of new purposes. We anticipate a very full meeting of the working men of the profession.

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### THE OHIO DENTAL COLLEGE ASSOCIATION.

THIS association will meet on Tuesday, the 19th of February, at 10 o'clock, A. M., in the Faculty room of the Ohio Dental College. It is very desirable that all the members of this association be present at this meeting, as important business will be transacted, and if there are any stockholders who can not be present in person, they should be by proxy, and then none can complain of the association, if their rights are not properly attended to. We hope that all will come up with renewed interest, and give evidence that they will put forth more energy for the support of the institution than they have heretofore done. We do think that the institution has not received that attention from the stockholders which it should, considered even in a pecuniary point of view, but the interest which they should possess in a professional aspect should be far greater than this, and we hope that this matter will not be longer neglected. T.

# ANÆSTHETICS.—BY JOHN SNOW, M. D.

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This is the most complete treatise on anæsthetics extant. The author enters into a discussion of all the anæsthetic agents employed, discusses their properties most fully and the method of using them, and presents all the information pertinent to this subject, that is developed. He gives a large number and great

variety of cases, tending to illustrate the method of using it in different conditions and under different circumstances.

This is a valuable work and should be in the hands of every one who administers anæsthetics.

T.

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## THE DENTIST'S MEMORANDUM.

This is an engagement book gotten up and arranged by Dr. C. H. Cleaveland, and published by J. T. Toland. It is more full and complete than anything we have before seen; it is arranged for appointments for each hour from 8 A. M. to 5 P. M. with space for the name of the patient, and the character of the operation; it is also ruled for dollars and cents, on a line with the name of patient; it thus serves as a day-book from which the accounts may be posted into the ledger. It contains quite a number of formulas and recipes some of which are good. There are quite a number of paragraphs on common subjects pertaining to dentistry, in which many good and useful suggestions are made in regard to conditions and treatment.

The chief value of the work consists in the admirable arrangement of the appointment department.

T.

### DOES AMALGAM SHRINK?

DR. LATIMER, under the modest title of "LITTLE THINGS," in the January number of the Cosmos, raises a pertinent inquiry in regard to the shrinkage of amalgams. He tried an experiment with one, and found that it expanded, and says, in conclusion, "This, indeed, is what I might have anticipated, from a consideration of the well-known fact that most bodies expand in the act of crystallization." He adds, farther: "I do not offer this in defense of amalgam, but as a scientific fact."

The fact is interesting and would be much more so if we knew the composition of the amalgam used. Some amalgams contract. Some expand. The fact of crystallization has but little to do in the matter. Mercury itself contracts in crystallizing. We like the idea of "Little Things."

#### A CORK VISE.

"But we do not regard it as treating a patient as a human being, with nerves and spasmodic muscles about the mouth and face, by putting the mouth in a vice, as it virtually is in using a cork between the teeth."

So writes "J. D. W." in the Dental Cosmos; and will he, just to please us, hold his mouth, for a given time, so wide open that the grinding surfaces of the first molars will be about a half inch apart, and then after resting himself, prop them just as far apart, with a cork, for the same length of time, and tell us which fatigues him most? (We would do it for him, were the case reversed. Certainly we would.) And if he tells us he is more fatigued with, than without the cork, we will give it up—with the understanding that the muscles which open his mouth have more contractile power than those which close it.

W.

#### PRETTY FAST.

"DR. WETHERBEE said—the secondary dentine which is found in the teeth of old persons takes fifteen or twenty minutes to be deposited."—Cosmos, p. 344. O, come now! Mr. Reporter, call it years and see if we don't fall in with you.

#### NEW DENTAL SOCIETY.

We learn that the dentists of central Ohio, recently met and formed a dental association at Columbus. This is a good move, and one that we are glad to see. The brethren of that vicinity, have, we think, been somewhat remiss in regard to the matter of association. We have met very few of them in dental associations, but we hope they will go to work in earnest and make up for past delinquencies. We have not the proceedings at hand, but hope we shall have soon.

### DENTAL REGISTER OF THE WEST.

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[No. 3.

# Original Essays and Communications.

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ADDRESS TO THE GRADUATING CLASS, OHIO COLLEGE OF DENTAL SURGERY—SESSION, 1860-61.

BY PROF. J. RICHARDSON.

Gentlemen Graduates:—By the official act of the venerable President of the Board of Trustees of this Institution, you have, this evening, been severally and formally invested with all the rights, dignities, and immunities which attach to the degree of Doctor in Dental Surgery. That this distinction has been fairly won and worthily bestowed, the signatures attached to the diplomas now in your possession sufficiently attest.

As the last official duty of those who have been more immediately charged with the responsibilities of your collegiate training, it becomes my privilege, speaking for myself and in behalf of my associates, to offer you our hearty congratulations upon an event of so much present and future interest to you, and to extend to each one a most friendly and cordial welcome into the ranks of the profession.

To us, who, during the time that is passed, have been the immediate and gratified witnesses of your uniformly courteous and gentlemanly bearing, and who have marked, from day to day, your earnest and unfaltering purposes in the line of your

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various duties, and who have been encouraged throughout by the evidences of advancement and proficiency which have rewarded their efforts to instruct, the privilege of participating in this formal and public recognition and endorsement of your claims to equal fellowship and privileges with the best and most honored in the profession, is especially gratifying.

With the exercises of this evening, the relations, heretofore existing between us as teachers and pupils, terminate. We remain to extend to others, who may hereafter seek instruction in this institution, the same assistance and encouragement that have been freely and cheerfully tendered to you. You, on the other hand, go hence to assume, in the locations which you may respectively choose, the varied duties and responsibilities of your new and untried vocation. As students under our charge, therefore, we no longer address vou, -that immediate relation, voluntarily assumed by you in the first instance, and necessarily limited in its duration, no longer exists; you are now our peers in the profession. But the very act which creates you such and annuls your former relations, has also imposed new ones, not voluntary, nor conditional, nor of circumscribed duration, but absolute, binding, and perpetual-I mean those which attach to the condition of alumni. It is upon the duties growing out of your relations as graduates, that we propose to address you this evening before we part, some of us, it may be, forever.

Among the obligations of your future will be those which impose upon you the exercise of good faith toward your Alma Mater, and indeed it may be said that the strict fulfillment of all your duties and obligations to her, is but the summing up of all the requirements of your future professional lives. As her immediate representatives, we shall, in our own feeble way, advocate her claims to every consideration, in respect to your fidelity as alumni, which her own and the interests of the profession, whose minister she is, may rightfull exact of

you.

In her own right, then, she may be esteemed not altogether unworthy of some consideration at your hands. Toward our natural parents, our hearts ever kindle with emotions of filial love, respect, and gratitude, and we carry with us, in the after struggle of life, the hallowed memories of the chilhood home made sacred by their love and solicitude. But among the cherished ones of earth, none so beloved and venerated as her whose ceaseless vigilance kept watch over the feebleness of our infancy and childhood; she who directed our unfolding thoughts and impressed upon the tender and expanding mind and heart those precepts and principles which give character, strength, and nobility to manhood, and whose counsels point the way to useful distinction, and give assurance of an unblemished name as a heritage to the world when the weary strife is over. Worthy of all homage, love, respect and gratitude is she; and though every other image may be forgotten in the feverish, selfish struggle with the world, the memory of our mother never fades or passes away. Not so imperative or so exalted, perhaps, are the claims of your Alma Mater upon your remembrance, respect and gratitude, but, as your fostering mother, this institution may, of right, demand that she shall at least be honored in your future professional acts by a fearless, consistent, truthful discharge of all your relations as alumni. The Faculty, acting in behalf of the profession, and with an intelligent sense of their accountability, have assumed, in the full belief of your worthiness, the grave responsibility of endorsing your fitness and qualifications for the creditable discharge of the high and important functions of your calling, and have certified to your claims upon the recognition, respect, and fellowship of the fraternity. This. gentlemen, is no slight testimonial, and I hesitate not to say, that the recipient who fails to make the endorsement good before the profession and the world, by any subsequent acts tending to compromise his good name as a man or practition. er, betrays and dishonors his Alma Mater, and brings reproach upon her representatives.

It is not enough, in the discharge of your duties to the school, that you have cancelled such pecuniary obligations as have been stipulated for in the compact between us. We, in a great measure, have but enunciated the truths which have been worked out by the common brain of the profession, and while your immediate pecuniary indebtedness to us as mere preceptors have been fully cancelled, there stands a party behind us, whose claims upon you are immeasurably above those which may be expressed in dollars and cents, and which, as graduates, it should be the leading purpose of your future professional lives to repay with interest. Much, if not all, of what you have acquired touching your profession is yours only by the generosity of those who have preceded you. You have the knowledge of scarcely a single fact in dental practice that is yours in your own right of discovery; nor do you hold scarcely a single truth or principle within the range of dental science in the right of your own mental conception or elaboration.

We repeat, therefore, that every man who avails himself, for purposes selfish or humanitarian, of the accumulated experiences and teachings which the common labor of the profession has garnered up, incurs thereby a debt which, in all honor and honesty, he is under obligations to cancel by an unreserved consecration of his best powers to the good of the profession and the interests of humanity. His acquired knowledge is but a common fund which he holds in trust, and by all the exactions of good faith, he should make a good account of the trust reposed in him, and see that it is faithfully executed. Various means suggest themselves by which you may be enabled to make some fitting return for the great benefits you have received through the labors of those who, through all the changing fortunes of a comparatively new profession, have worked steadily and hopefully on to make it what it now is. Prominent among those means are self-culture and improvement. If you have, for a moment, pictured to yourselves lives of luxuriant ease in the practice of your chosen

profession, disabuse your minds of what can only tend to enervate and demoralize you, and what must inevitably lead to bitter disappointments, if you have a single aspiration to excel. It involves hard labor if a man but aims to keep up with the profession, but I hold even this to be beneath the dignity of a man's reach in the practice of his calling. What if all were content with simply keeping up with the profession? All acting on that principle would bring our specialty at once to a dead halt. Each one content with what is already known, would end all progression. The true idea or philosophy of progress is illustrated in every man's endeavor to add, to the department of knowledge to which his calling relates, something not already known. Many there are who, with criminal slothfulness and indifference, play their ignoble part with no thought of the great demands of science or of humanity pressing on them; human machines, vitalized with mere selfish instincts, who never move in any enterprise outside of the contracted circle of their own sordid interests, unless, perchance, they are driven to it with whip and spur; men who drivel over their daily round of office engagements and forced duties with the persistence and exclusiveness of an ass on a treadmill, and who make about as much progress in their profession as the aforesaid animal on the wheel, whose revolutions never advance his nose one solitary inch beyond the rack at which he feeds. Spiritless and indolent, they shrink like cravens from the more exalted duties of their position, and are seemingly content to eke out an inglorious and almost profitless life as dull and unproductive plodders in the beaten path, feeding from day to day, like professional mendicants, upon the intellectual crumbs that fall by the way from other men's brains.

Now, although it may not be altogether unworthy of a man's ambition o attain to a full knowledge of the facts and truths of his profession, yet it is certainly more worthy of his powers to take a step in advance of its present attainments, and to strive to enlarge its boundaries and augment its

achievements by his own personal contributions. To do this it will be necessary for you to avail yourselves of all the means of self-improvement within your reach. You should be hard and unremitting students. You should read much. not for pastime or amusement, but for instruction. carefully and analytically; note well the facts presented to your minds, and place authors' inferences or deductions from those facts on trial. Facts you may not dispute, but opinions may be fairly challenged. Take no man's conclusions for granted, but subject them, in candor and with impartiality, to the test of your own judgment, observation and experience. Cultivate a spirit of independent thinking, but with modesty and distrust in your own infallibility. Nothing so surely tends to mental decrepitude as a slavish reliance upon the opinions of others,-nothing so fatal to mental growth and culture as the poor-spirited committal of your own judgment into the keeping of others. Treat every man's opinion with respect for your brother's sake, and while you do your own thinking, be always as ready to renounce errors of judgment when apparent to your consciousness, as you are to adopt those facts which commend themselves to your acceptance.

Prominent among the means for self-improvement, are dental periodicals. They are, in an eminent degree, worthy of our support and encouragement, and with an annual expenditure of less than twenty dollars, one may command every American journal devoted to dental science and art now published. They are the exponents, quarterly or monthly, of dentistry as it is, and they come to us teeming with the fresh experiences of every-day practice like ever gushing well-springs of pure water to slake our thirst for knowledge. They are the great heart of our literature, which, through innumerable ramifications, send their vitalizing influences into every tissue of the professional organism, quickening all parts with new life and powers, and contributing more than any other instrumentality to the wonderful growth and progress of the profession. You can not afford to be without these

aids,-no investment will afford you such ample returns. To ignore them is to shut out the light from your laboratory and operating room. Without them, you will be distanced by competitors with half your capacities and industry. In this connection, allow me to suggest that the mere subscription support which you may give to these journals does not wholly fulfill your obligations. When you have paid the subscription price, you have only settled with the publishers. Members of the profession who fill page after page with the rich stores of their daily observations and experience, that you and I may be profited thereby, have a right to expect the same generous offering of our gifts upon a common altar for the common good, and you will most assuredly be wanting in good faith to them, and recreant to your manifest obligations, if you fail to respond, in a like spirit of liberality, to their equitable demands. To omit so plain a duty would be very like living in charity upon your associates.

The stated gatherings of the profession in conventions, local, State, and national, afford, also, distinguished opportunities for improvement. To these convocations, like devout pilgrims to some holy shrine, the liberal-minded men of the profession everywhere wend their way with their precious bequests of ripe experiences and carefully selected facts, to lay their gifts upon a commou altar. From the multitude of offerings presented, some are scattered as chaff before the winds, while the grains, which remain to nourish and strengthen, are carefully gathered up and garnered, and anon are spread broadcast, to take root in productive soils, springing forth again with an hundred-fold increase to bless mankind. These conventions and societies are, indeed, in a most eminent degree, the touch-stones that test, with the certainty, almost, of infallibility, the validity and truth of every important fact and principle which concern us in practice If errors are rendered plausible by specious speculations and dangerous sophistries, the keen dissections of verbal and open 'discussions expose their nakedness; if rendered attractive by cap-

tivating oratory, they are stripped of their claims and pretensions by the inexorable logic of every-day experience. Thus, error is consumed, and from its ashes new lights spring forth, radiant with beauty, and enduring as truth itself. In these conventions many a priceless thought, under the inspiration of the moment, has come bubbling up to the surface, all unconsciously perhaps, and of obscure parentage it may be, but born to be clothed hereafter with immortality. Here the grim visaged spirits of jealousy, envy, and distrust are exorcised, while old friendships are renewed and new ones formed, binding and cementing all together in one common, compact brotherhood. Here the arrogant and inflated pretensions and assumptions of addle-brained gasconaders have their wings clipped and their masks removed; while the timid are re-assured, and modest merit is lifted up and patronized. Our conventions are emphatically schools for improvement, where every man is at once instructor and scholar, and no one may withhold himself from them without serious self-detriment and loss of personal weight and character in his profession.

Prominent among the educational facilities of the day, let us not pass unnoticed Dental Colleges. Their claims upon the consideration of the profession are too well-grounded and too generally recognized, to require any extended vindication at our hands. To you, as a portion of her offspring whom it has been her privilege and her pleasure to honor, this Institution trustingly commits her reputation and her interests. No better guaranty of your appreciation of the benefits to be derived from a regular course of collegiate instruction is required than the completion of your term of pupilage under her guidance and direction. We only ask, speaking for the cause of dental education everywhere, that you may encourage the enterprise by substantial tokens of your approval and appreciation, and that you may contribute to her support and prosperity by every means which you may rightfully exercise in her behalf. There is plain and palpable dereliction of duty, in this matter of college patronage, fairly chargeable to the

profession of the West. The great Mississippi Valley is, today, teeming with probably over two thousand dentists, every man of whom has a personal and direct interest in all that pertains to, or affects, the character and reputation of the profession, and yet this school goes begging from year to year for countenance and patronage. No unfaithfulness to the trust reposed in them, or incompetency in the discharge of their allotted duties, has ever been charged upon the Faculties who have struggled on almost against hope, and yet this amphitheater, session after session, displays but a "beggarly account of empty seats." It would be affectation in me not to declare that the institution is worthy of better fortunes, and that she is more deserving at the hands of those whose interests, in every aspect of professional life, are identical with hers. There are scores upon scores who are loud-mouthed in denunciations of quacks and quackery, but are as tonguetied as mutes in defense of the very means which, more than all others, give tone and respectability to their calling, and which, more than any other agency, is potent to crush out pretenders and mountebanks. We trust and believe, gentlemen. that you at least, with other alumni who have gone before, will yield a ready and hearty response to the claims of the Institution that has received and nourished you, and whose prosperity and usefulness in the future can not be indifferent to you.

I have, thus far, indicated to you, imperfectly perhaps, some of the leading obligations of your professional lives. There are many other aspects of the subject, bearing upon the duties and relations which you must assume, but I must hasten to a close.

In a few brief minutes we must part, and it will be in the cheering and confident assurance that your purposes lie in the right direction, and that your hands, your hearts, and your minds are prepared and nerved for the exigencies of the untried future. Between the cheering visions of that future,

so natural to the hopefulness of our natures, and their realization, there is a long period fraught with many a joy and sorrow, which, for wise purposes, are hidden from our view by an impenetrable veil. I know, as do all who have passed through their term of pupilage, something of the student's dreams of after-life, -of the bright, enchanting, hopeful visions that crowd upon his awakened imagination as he looks with impatient gaze beyond the dull and plodding present into the glorious future. It is but the natural inspiration of the artless and aspiring soul before it is made sour and distrustful by the experiences of actual life. And it is well, for of that inspiration are born promptings and impulses, motives of thought and action, which impel him to take hold more cheerfully, more hopefully, and more courageously upon the work of the present. On that inspiration are laid those foundations, broad and deep, that shall prevail when trials, and disappointments, and temptations come, if come they must.

Thus far, it has been plain sailing with you. No false promptings of self-interest have yet lured you into those waters beneath whose placid bosom treacherous rocks lie concealed, and on which many a goodly craft, well-manned, has struck, and parted, and gone down. No bitter disappointments and heart-sickenings that wait upon "hope deferred," have yet hung like leaden weights upon life's first enterprise. No bitter experiences of neglect, indifference, or ingratitude, that blast like mildew, have yet been yours to experience. All has been calm and peaceful drifting, with the music of rippling waves beneath, and the brightness of a cloudless sky above. And though I would not willingly shut out from your gaze the vision of that bright blue sky by clothing it with frowning and portentous clouds, nor drown the sweet music of those gently murmuring waves by the shrill cry of "breakers ahead," yet if word of mine may strengthen you in the hour of need, I would not see you exposed to the danger of drifting, unconsciously it may be, into those treacherous

waters in whose dark depths many an unwary voyager has been engulfed.

I say it not to discourage, gentlemen, but rather to fortify you against what is inevitable, -your coming and immediate future will be full of perils to your personal and professional integrity. The first few years of your active professional lives will, in all human probability, either make or mar you for all coming time. Like base metals, you will be consumed in the fire, or as gold refined in the furnace, you will come out from the ordeal not only unscathed, but strengthened and ennobled by the trial of your integrity. Many, very many vindicate their manhood at all hazards and against all odds, and stand proudly unimpeached before the world; -others lapse and are lost. The history of every school devoted to the teaching of Medical or Dental Science is, doubtless, not wanting in examples of shameless recreancy to the obligations which their relations as alumni impose. Such instances I am happy to believe are rare among the graduates of this school, though I have clearly in my mind's eye to-night, one or more who, with the honors of the school fresh upon them, have descended to such practices as are scarcely paralleled by the veriest mountebank that hawks his secret nostrums in the public squares. But it is a cheering and hopeful evidence of the profession's appreciation of the charlatan's tricks and arts, that the parties who have thus prostituted their acquirements and betrayed the generous confidence reposed in them, do not, to-day, enjoy either the profession's respect, sympathy, or recognition. Their histories are those of powers perverted and manhood sacrificed to compass ends which center wholly in self-interest, and as such they are introduced to " point a moral."

And now, gentlemen, with sentiments of the highest regard for you personally, and an earnest hope and desire that the success of your future professional lives may be such as shall add luster to your names, and confer nameless blessings upon mankind, whose sufferings and misfortunes it will be your peculiar province to ameliorate, we bid you a reluctant farewell.

### REPLY.

## BY A. EVANS, D. D. S.

It is needless to say to the Board of Trustees and the Faculty of this Institution, that we highly prize the honor this evening received. Our presence here, our toil and study has all been with this object in view.

We can not but regard these diplomas as the very best credentials we can get; earned by much hard study, and given by those who are known and honored as teachers, they speak more emphatically, and carry more weight than the single expression of any individual. We do prize them, and hope so to use them, that the world shall honor them. We carry with us, gentlemen, the highest recommendation you can give. It shall be our aim ever to seek the honor, prosperity and success of this our Alma Mater, feeling that in this we shall be but promoting the highest good of our profession.

By the advice of kind friends, we were directed to this door by which to enter the profession of our choice. We were told that time and money thus spent in the acquisition of knowledge would be as capital well invested—sure, if carefully attended to, hereafter to yield a rich reward—a reward in the consciousness of duty done—a reward in the confidence of our patients—a reward in the patronage of the wise and good. Thus far, the first reward is ours, and believing that the advice was wise and given for our best good, we shall strive for the other rewards promised.

Gentlemen of the Faculty, I am delegated by my classmates to convey to you our thanks for the interest you have taken in our studies—for your constant kindness, and your indefatigable labors for our advancement and the progress of true dental science. Let me assure you, that words appear cold and formal on this occasion. I can not find language sufficient

to express my feelings. This winter, which in prospective was so long and irksome, you have made short and most pleasant—you have led us on from day to day, making the acquisition of science a continued pleasure—more of a luxury than a toil; you have thrown around our studies a charm which has held us fast—until time has sped away, and we are at the close of the session,—in the midst of our Commencement exercises before we have had time to weary of your instruction or realize that your lectures for this season are done. We thank you for all your instruction—we thank you for much good counsel and advice—we thank you for that kindness and courtesy shown us—and permit us to say, we thank you for making us feel that we are just commencing to grasp the knowledge we need.

We do thank you, that you have laid open to our view such a large field from which to gather rich materials, which we hope will be useful in our future practice. Is it so, that the more we learn, the more we see to be yet learned?

We carry with us, gentlemen of the Faculty, the fondest recollections of this our Alma Mater; and while we may not look again on these walls as students, or gather around you as pupils, seeking that instruction which we feel has been most ably given, yet we shall ere long expect to hear that these halls are more and more thronged every year with those filling our places.

Shall we not yearly visit this shrine, and renew here our pledges for the advancement of dental science, and may we not, for years to come, see our same honored Professors laying up in store for their arduous labors here a rich reward of a profession's gratitude, if not a more substantial evidence of appreciated worth?

And now, gentlemen of the Faculty, in behalf of the graduating class, I bid you farewell—and yet, as this word strikes so deeply on our hearts, let us cherish the hope that soon and often we may all meet again and again—so good-bye.

Fellow-graduates, we this evening have imposed upon us and have assumed a solemn responsibility. We not only assume the duties of Dental Practitioners, and thus give battle to dental disease—the public have a right to expect of us capabilities to meet ail the exigencies which each case may demand—but the honor of our profession has been put into our hands. Is it not true that each of us should feel that we are intrusted with the character of the avocation we pursue, and this would appear to be particularly the case in all which relates to medical science. It is true that every act of charlatanism committed by any member of the profession, degrades most of all the perpetrator thereof; still the profession itself is injured in the estimation of the public.

True science must ever remain worthy of all confidence,—
a host of empirics may unrobe themselves and act the charlatan, but in doing this, they do not act out the professional
man. They have stepped outside of the profession, and

no longer deserve any of its honors.

The day has gone by when dentistry can be classed with unlearned trades. It becomes us, then, to see that her escutcheon in our hands shall never be tarnished by any act of ours, but that our every effort shall be to elevate more and more her standard.

We go to different places of labor; we carry with us the honors of this Institution. Her motto is, "Science combats disease." Let us prove the truth of this motto, and remember our Alma Mater looks to us as sons who will in all our acts strive to advance her interests and promote her honor.

Let it never be said we are undutiful or ungrateful sons. The Alumni of the Ohio College of Dental Surgery have influence, and we shall deserve not these parchments if that influence is not felt for her good.

Fellow-students—you who are looking forward to a like realization of your hopes, and expect, when another Commencement day arrives, to occupy our places—let me, in conclusion, urge you to perseverance. Time's rapid flight will

soon revolve another year; let it not be a misspent oneevery day should be one of acquirement—remember that a
lost day is never found. Time idled away can never be gathered up and used again. You are all longing for the duties
of professional life; forget not that these duties should never
be assumed before proper preparation has been made. We
hope ere long to meet you as co laborers in the field of dental science. We shall greet you as brethren; and although
we have little the start of you in the race for professional
renown, yet we shall be most happy to share with you in all
that tends to elevate dental science.

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#### DENTITION.

Read before the Michigan Dental Association, BY C. S. CHITTENDEN, HAMILTON, C. W.

SECOND dentition was the subject on which I was to write: but as second dentition is so intimately connected with first dentition, the first being incomplete when the second commences, and both being carried on at the same time and by nearly the same process, it renders it exceedingly difficult for me to speak of the second without also speaking of the first. I propose, therefore, to speak of dentition, instead of second dentition. We know something about the matter,—we think we know a good deal more. We know that the teeth exist. that they possess a certain form, and that they are composed of enamel, cementum and ivory, or tooth-bone, and that they contain a nerve, an artery, and a vein, and that they are used for masticating the food, and that they greatly assist articulation. We know that their substance is made up of the salts of lime, soda, etc.; but we do not know the modus operandi of their eruption, any better than we know, as the old song says:

" How oats, peas, beans and barley grow."

Nature seems to know what is best for us, and to attend to our wants without our asking. When the child is first ush-

ered into being, we find the mouth exactly fitted for the kind of nourishment which nature has provided for it. Its delicate stomach requires no solid food, nor could it digest it were it fed on such, until nature has prepared its stomach for it; but so soon as the stomach is prepared to digest solid food, we find kind nature attending to its wants, by sending out the teeth for the purpose of masticating it, thus allowing each particle to become completely saturated with the saliva, before it is introduced into the stomach. Anatomists and physiologists do not agree at all as to the operation of nature in the production of the teeth. It is often asserted that the teeth of the second dentition are of a denser and harder substance than those of the first; and the reason given is, that the lactic fluid does not contain a sufficient quantity of bone making material, to form the teeth which are to last for life. But analysis proves that there is very little difference in the material of both sets. If it were true that the permanent teeth are denser and less liable to decay than the deciduous ones, because we eat solid food, we certainly ought to expect that the dentes sapientiæ would be the most perfect in the mouth, and would outlast all the others; when we know that of all the teeth they are the frailest and soonest lost. It appears to me we must look for some other solution of the matter. It is well known that when any portion of the human frame in a state of health, as the muscles for instance, are exercised for a length of time in a certain direction, that there is an increase in the size and strength of the parts, in consequence of the greater amount of the secretions which have been sent to them, and that atrophy, to a certain extent, succeeds a want of exercise. We all see such examples every day. Is it not quite probable that there may be a parallel drawn between the flow of the secretions, which go to increase the size of the muscles, and the flow of secretions which go to the sacs containing the embryo teeth?

Let us suppose a case. Let us take a healthy child at its third or fourth month. It has all the elements of growth, as its increase in size and its hardened bones give full proof. Its muscles are large, firm and strong, showing plainly that there has been no lack in the supply of the secretions which have been sent to them. The bones, too, by their size and firmness, show us that nature has been busy with them at the same time, depositing the salts of lime, magnesia, soda, etc., upon them; and so on throughout the whole system, increasing the size and strength of those parts which the child uses most. As it gets larger, its stomach begins to feel the necessity of being supplied with hardier food—food which must be saturated with the saliva before it can be digested, and the child seems constantly inclined to bite whatever it can get into its mouth.

Soon after this we begin to see indications of the growth of the teeth, showing that nature has directed those salts of which the teeth are composed, to be deposited little by little on them, until they make their appearance through the gums, and continues the process till the fangs are perfect. But do we know how this is done? Do we know any more about this than we do of the manner in which carbon enters into the formation of vegetable life?

We think we know that the bone material is taken from the food, and carried to the secretive organs and deposited in or on the bones. We know that some kinds of food contain a much greater quantity of bone material than others, and that it is a pretty well established fact that the teeth of those who for generations have lived almost exclusively on coarse food, are better, whiter and harder, and that they last much longer than the teeth of those who fare sumptuously every day.

Now, can we not form a pretty safe conclusion, from what we know, with regard to defective dentition and defective teeth in childhood?

For the last twelve years, my practice, to a great extent, has been among the Scotch, whose staple article of diet, at least for breakfast, is unbolted out meal. I have found that the teeth of children brought up on this food are erupted with

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very little difficulty, are less liable to decay in childhood, and from the fact that they are retained in the mouth till the absorbents have carried the fangs away, the second set are more regular and more fully developed than the teeth of the natives of this country. Are they not indebted to a great extent for their fine teeth to their manner of living? Now, if such be the case, ought we not to use our endeavors to induce parents to give their children such food as will tend most to bring about the desired result? Shall we not have earned the heartiest thanks of the rising generation?

But to my mind there is another great source of mischief, which is not sufficiently regarded. I mean the practice of saturating the system with outlandish doses of mercurial medicines. We are all called daily to attend to the teeth of those who have been "murdered alive" with this drug. We know that mercury produces "great rottenness of the bones," and can we expect the offspring of parents whose whole systems are filled with this dreadful drug (I mean dreadful, because dreadfully used), to be healthy? and if not healthy, how can we look for any thing better in shape of teeth than the black, unsightly, disgusting apparatuses, which we see from day to day?

But as our specialty is more for the remedying of existing defects, than for preventing them, we must look for the best means for alleviating existing suffering. For this purpose, I have found one or two remedies sufficient for most cases. Of course, I would not advise the mere dentist to attempt to treat difficult cases; but, as we generally meet them, I think we may do so with perfect safety. For instance, we are often called upon to attend to children whose teeth are slow in coming through the gums; with relaxed bowels; great nervousness, etc.; scrofulous children; children who seem to have very little life force left in them. For such cases, I have found calcaria carbonica, in what Homeopaths call the third potency, given about once a day, for a short time, to be a most excellent remedy—a remedy which has done, is doing,

and will do more good than any other with which I am acquainted. Lime water may often be used with good success in cases of slow dentition, by those people who are afraid of being benefited by Homeopathy.

The dentist should never attempt to assume the functions and duties of the physician, least of all, that big sounding word "Dector;" but he may be able, from his study and ex-

perience, to give parents many useful hints.

With regard to the extraction of the deciduous teeth, it is difficult to conceive the mischief that is done by the perambulating doctors, in teaching parents to have the deciduous teeth extracted, to allow the permanent ones to come in regularly. It is often impossible for me to convince mothers that it will not be best to extract these teeth. The general impression seems to be that the neglecting to have the deciduous teeth extracted, sometimes before the permanent ones should make their appearance, is the sole cause of irregularity!

As I said before, nature seems to know what is best for us, and to attend to our wants without our asking; she will, if allowed to take her course, throw out the deciduous teeth at

the proper time, in almost every instance.

My practice is never to extract a deciduous tooth unless there is an actual necessity for it, and I never consider that there is a necessity, unless the permanent tooth is about making its appearance, or there is disease, which renders the tooth too painful to be retained in the mouth.

#### DENTAL FEES.

Essay read before the Michigan Dental Association.

BY DR. W. CAHOON, DETROIT.

In this fast age, when dollars and cents are needed to place men in positions in society, it seems right that the dentist should consider well the matter of fees in all its bearings. Men may talk of philanthropy and generosity. It sounds all well; but

the maxim is still good, to be just before being generous. Not that a man should not be generous, but that he be allowed to bestow his beneficence as he likes, and not be compelled, because he has chosen a profession, to compromise with every one with whom he has to do. The dentist who is fully prepared, in his profession, to do all that the age and times require of him, has not come to that point without an expenditure of money and labor that none but he who has experienced it can estimate; therefore the dentist should be allowed to charge for his services in proportion to the amount of service rendered, there being such a difference in cases and operation performed, that it seems almost impossible to have any set fees to guide in an estimate until the work is done. Although the patient may inquire beforehand how much will be the charge, let it be distinctly understood that the charges will be made in proportion to the time occupied, and the amount of material used, as no other method can enable the operator to do justice to his patients and himself.

And then, in his estimate of services, let him be conscientious and honorable; and, if he knows he has rendered good service, let him charge a good fee, and in that way he will not only gain the respect and confidence of his patients, but drive the wolf from his own door. Besides, operations performed under considerations like these, will certainly be more valuable to all parties concerned, than if done under a stipulated fee beforehand; as those wanting anything done to their teeth want it done as well as possible, and, in nine cases out of ten, are willing to pay anything within the bounds of reason.

It is true, there will be a great many cases presented, in which there can be an estimate made; but to make it a general rule, would prove ruinous. The dentist, like all other men, is ambitious to make a respectable appearance in society, and to give his family the benefits of an education, and to provide for a rainy day; therefore, he must charge more for his services than the artisan, who can manufacture his wares in large quantities, then throw them into the market for sale;

while the dentist has got to do his own work, and wait until he shall have an order, even to do that.

The price charged, however high it may be, by a dentist who is known to do his work well, gives better satisfaction than though he was a second or third rate operator, and charged accordingly.

# WHO ARE DENTISTS?

BY WM. A. PEASE.

DENTISTRY as a profession is of American origin. It had its rise in a great public want which nowhere but in the United States has, or could have existed; and there is little likelihood that it ever will exist in any other country. The want that gave it birth, gave it, also, a vigorous growth, unexampled in any other profession, for dentistry can not truly be said to date back much earlier than 1810; and, as a profession, by which is meant the point of time when dentists felt competent to say to the people that, accidents excepted, there is no longer any need for them to lose their teeth, is of as recent date as 1854. As early as 1820 porcelain teeth were made in France, but they were very imperfect imitations of the natural organs; being not very dissimilar in color and general appearance, from common porcelain ware. In this country, Washington bought two sets of artificial teeth, both of which were carved out of solid slabs of ivory.

Up to 1840 a gradual advance in improvement was made, which served as a good foundation for further progress. At this time there was a large class of people in this country, possessed of considerable wealth and occupying high social and official positions, who had lost a part, or the whole of their teeth. This loss was severely felt; not only as a means of masticating their food, as an impediment to articulation, but, also, as destructive of personal beauty and of manly and womanly expression. Hence, the first demand for dentists

was to supply the loss of the natural teeth. This want was happily one that appealed to a people generally educated, ingenious and fruitful in devices—to natural mechanics; and it was answered by improvement rapidly following improvement in the art of making artificial sets of teeth, till it was soon brought to very great perfection.

Thus we see that the first want, for what was, and is still called by many, dental skill, was for mechanics—persons skilled in working and manipulating gold and silver and fashioning them into plates to fit the mouth; to which teeth were to be attached. This art was justly highly appreciated, because it was very useful, and gave dentists a high position in popular estimation; it opened the way for dentistry as a profession.

About 1840 it became obvious that dentistry would soon present a field for honorable and lucrative employment to men of general and medical education. The Baltimore college had just been established, and it was thought that, by scientific investigation, means would soon be found to preserve the natural teeth, and thus greatly diminish, if not entirely dispense with the necessity for artificial substitutes. Then followed an active course of experiments and investigations to determine how far plugs would protect the teeth from further decay. Many of these experiments were necessarily imperfect and ill directed, and it soon became obvious that people had more confidence in mechanical than conservative dentistry, and neglected their teeth. This neglect was ruinous; the nerve became exposed, toothache supervened and forced them to apply to their dentists for relief. The remedy was, therefore, either to extract the tooth, try to quiet and save the nerve, or to destroy it at once. Mechanics chose the former, because it enabled them to make a substitute, dentists the latter, because they considered it an opprobrium to be unable to save the tooth. Their first efforts, it is true, though apparently successful and gratifying, too often ended in a mortifying failure; the capped or treated nerves died, and dead

nerves generally produced such a crop of intractable ulcerations, or gumboils, as to disgust the community and dishearten dentists, who then feared that mechanics must still be necessary.

At last, in 1854, a rational theory was promulgated for preventing ulceration and curing ulcerated teeth, and about the same time, as if to fix, and make that the initial point for the advent of dentistry as a profession, several improvements were made in preparing gold for dental purposes that enabled dentists to make much more dense and durable fillings, and also, to build up and restore the form of broken teeth. The dental profession was then fairly established; in theory at least there was no longer any, or but little need of mechanics or manufacturers of artificial sets of teeth; because, that unfortunate class of persons who either ignorantly or criminally neglected their teeth until the nerve became exposed, could still have them treated, plugged, and made much better, and more serviceable than artificial teeth. Now, after a more than six years' practice of the new method of treating diseased teeth, dentists feel warranted in saying to their patients there is no necessity for losing your teeth. Teeth can be so thoroughly plugged that it will be as difficult to remove the plug as it would be to cut away a corresponding portion of the tooth. Even in those complicated cases where the tooth aches, where there is a swelling of the face, a gumboil, or a discharge of pus, the pain can still be quieted and the ulcer healed.

From these considerations the public will see there are two classes of dentists, or rather, there are dentists and mechanics, from whom very different treatment may be expected. The one, basing their practice on a knowledge of the human system and the laws that govern it, will preserve the natural teeth; they will refuse to extract them, simply because they ache, or there is a gumboil at the roots; or, if they do it, they will do so reluctantly for persons who persistently demand it, and refuse to submit to the necessary treatment to

preserve the teeth; the other, conscious of their inability to treat and save the teeth, having little more than mechanical skill and manual dexterity, will as persistently advise to have the teeth extracted, or they will adroitly lead the patient to demand it by discouraging remarks on the difficulty of the case, or by talking of the danger of ulceration, or what they call disease of the roots; they act on the maxim that dead men and extracted teeth tell no tales. The patients of the first preserve their teeth—their faces unmutilated and their natural expression of countenance and their individuality; the patrons of the other get a shining set of white teeth, which every one knows to be artificial; in return for which, they are but imperfectly cherished, the breath becomes offensive; the mouth falls in, the nose sticks further out, the lips shorten, the lips and cheeks become wrinkled and shriveled, the cheek bones assume an unnatural prominence, and they look prematurely old. The one, feeling little more responsibility resting upon them than what is common to mechanics, act accordingly; they persistently seek for a sale of their wares, talk loudly and promise much; they obtrusively thrust forward their mechanical contrivances and show pieces of artificial teeth on the attention of the public, all of which the other as studiously avoid. The one never rises above the customs of a craft or trade; the other is governed by the rules of a profession.

# REFITTING TEMPORARY PLATES.

BY J. RICHARDSON.

INASMUCH as the utility of temporary sets of artificial teeth is so generally recognized by practitioners everywhere, and as most patients desire them, and as the usefulness of these appliances is commonly very much impaired by the changes which take place in the form of the alveolar ridges during the progress of absorption, it would seem desirable that some available means should be devised to re-adapt them to the

parts without the labor and inconvenience of remodeling the entire piece. While most patients, in a full knowledge of the disabilities oftentimes incident to the use of temporary substitutes, request to be supplied with them, yet there is not an inconsiderable class, skeptical of their utility for the reason mentioned, and disinclined to submit to the annoyance of an ill fitting plate, who prefer to forego the use of artificial teeth during the entire period of absorption.

To increase the usefulness of these pieces and render them more desirable, either of the following methods may be adopted to re-fit, from time to time, with the greatest certainty and facility, such as have lost, in a greater or less degree,

their adaptation to the parts in the mouth.

First method.—Take, for example, a full upper set on either gold, silver, or vulcanite. Secure, in the first place, an accurate impression of the mouth in its changed condition in plaster, and from this a plaster model in the manner usually practiced. Perforate the palatal portion of the plate with from eight to twelve holes at different points, and also the external borders, from heel to heel of the plate, at intervals of from one-eighth to half an inch apart, and near the edges. These holes may be enlarged to the dimensions of a medium sized knitting-needle; or if the piece is of vulcanite, to twice or three times that size. On the lingual and buccal surfaces the holes are well counter-sunk with a bur drill. The plaster model, with the central portion raised to form a chamber (and which should be made to correspond, as nearly as possible, in position, form and thickness, with the chamber in the plate, if one exists), is next heated throughout by placing it over a spirit flame, or in the baking furnace of an ordinary cooking stove, or the muffle of a furnace, and when of a temperature that will barely admit of being taken in the hand, remove and cover the face of it with a sheet of India rubber or gutta percha as prepared for vulcanite work, and press it down upon the face of the model with the fingers. Apply the perforated plate to the model, being careful to secure a proper relation

of the two; then press the former down firmly upon the model. To render the vulcanite material still more plastic and compressible, the whole may now be returned to the furnace, and subjected to a uniform heat throughout, when it may be removed and firm and steady pressure made upon the plate and teeth until forced as nearly as practicable into contact with the face of the model. Portions of gum will be forced through the apertures and out at the borders of the plate; these should be well packed into the countersinks and under the edges of the plate, when the model, with the rubber and plate adherent, may be placed in a vulcanizing flask and encased bodily in plaster. It is then placed in a heater and vulcanized. If all the steps in the process have been carefully conducted, the fit of the plate will be perfectly restored, with no material change in the antagonism, or none, at least, that is not susceptible of ready correction. The union between the vulcanite lining and the plate will be strong and lasting, and altogether impermeable to the fluids of the mouth.

In the case of lower pieces, the holes should be made along the external and internal borders of the plate near the margins. In all other respects, the manipulations are the same as those described above.

It is scarcely necessary to observe that, in the use of gold plates, the method is inapplicable whenever it is designed to re-swage the same plate for the permanent piece.

Second method.—Perforate the plate whether of gold, silver, or vulcanite, as before directed, and employing this as a cup or holder, take an impression of the mouth in plaster, pressing the plate up closely to the parts. The plaster forced through the holes and filling the countersinks on the opposite side of the plate, will serve to bind the plaster to the plate and prevent, with cautious manipulation, the two from separating as they are being detached from the mouth. When removed, the plaster impression lining the plate is trimmed even with the borders of the latter and then varnished and oiled. The lower section of a vulcanizing flask is now filled

with a batter of plaster on a level with its upper surface, and the impression, filled with the same, is turned over and placed in the center of the flask, with the edges of the plate touching the surface of the plaster. The plate and adhering plaster are now carefully separated from the model. After cutting out the plaster from the holes and countersinks in the plate, the plaster forming the impression is detached from the plate, and the holes and countersinks filled with wax. The plate is then re-adjusted over the model, and (the surrounding surface of the plaster in the flask having been varnished and oiled), plaster is poured in upon the upper surface of the plate and teeth, filling the upper ring. When the plaster is sufficiently hard, the two sections of the flask are separated, and grooves formed running out from the matrix to the margins of the flask. A sufficient quantity of vulcanizable rubber is now either placed upon the model or packed in upon the palatal surface of the plate, -before doing which, however, the wax filling the holes and counter-sinks in the plate, (and which was placed there to prevent portions of plaster last poured in forming the matrix from running in and filling them up,) should be worked out with a small instrument. The whole being sufficiently heated, the two sections of the flask are forced together, expelling redundant material. The piece is then vulcanized as in the former case.

The above method, though somewhat more complicated than the former, is quite simple in its details, and will occupy but little more time, and is, withal, more certain in its results. For the idea of forming a matrix substantially as described, I am indebted to Mr. R. A. Mollyneaux, an intelligent member of the present class of the Ohio Dental College.

# Proceedings of Societies.

# MICHIGAN DENTAL ASSOCIATION.

THE sixth annual meeting of the Michigan Dental Association convened in the city of Ann Arbor on Tuesday evening, January 8th, 1861, at 7½ o'clock.

The association was called to order by the President, Dr. Chittenden.

The Secretary being absent, Dr. Harris was, on motion, appointed Secretary pro tem.

The Minutes of the last meeting were read and adopted.

The association proceeded to the election of officers for the ensuing year:

Dr. WM. CAHOON, of Detroit, President.

Dr. H. Benedict, "Vice-President.

Dr. J. A. HARRIS, Pontiac, Rec. and Cor. Secretary.

Dr. C. B. Porter, Ann Arbor, Treasurer.

Drs. Chittenden, Bancroft, White, Executive, Examining, and Publishing Committee.

Owing to the lateness of the hour, the association adjourned to 9 o'clock Wednesday morning.

#### MORNING SESSION.

The association was called to order by Dr. Chittenden.

Drs. J. A. Robinson, of Jackson, J. A. Watling, Ypsilanti, were duly elected members.

On motion, Drs. Benedict and Bancroft were appointed to conduct the President elect to the chair, who made a short and eloquent address, thanking the association for the honor conferred upon him. After which, upon receiving an invitation through Dr. Porter, from the Medical Faculty, to visit the State University, adjourned to meet at 2 o'clock.

After spending a short time in museum, called upon Prof. Ford, by whom they were cordially received and entertained, examining many objects of great interest to the profession, from the Professor's own collection of anatomical preparations; witnessed the operation of staphyloraphy by Professor Gunn, which added much to the interest of the visit.

#### AFTERNOON SESSION.

The regular order of business was taken up—(Reading of Essays.)

Dr. WHITING, on the "Effects of diseased teeth and gums on the general health," being absent, discussion on the subject was opened by

Dr. Porter, who thought that great mischief was done by the neglect of people suffering from this disease, to attend to it, and permitting it to become chronic.

Dr. Robinson did not think he could advance any new ideas, but in such cases, after removing tartar from teeth, scarified gums and used wash of white oak bark; had used it in many cases successfully.

Dr. Porter sometimes used same, with addition of winter-green.

Dr. Robinson in cases of fungus, removes with knife or scissors that portion, and applies nitrate of silver with brush—related case of an old person whose lower incisors had become very loose; tied the teeth together with silk, and ordered the use of the bark; teeth had become quite firm.

Dr. GEARY thought the fetor of diseased teeth and gums very detrimental to health, when taken into the stomach and lungs, as it constantly is, the worst effect being upon the lungs, then through the nervous system acts generally upon the whole body.

Dr. Bancroft thought the bad effects come more through the nervous system than by inhalation. Case of young lady, low state of health, pains in face and mouth, suffering generally from neuralgia; extracted teeth, and cured. Dr. CHITTENDEN—case; person suffering intensely from neuralgia, gums healthy, teeth good; extracted wisdom tooth and discharged cured; soon returned with same difficulty on other side; extracted wisdom tooth—pain did not return.

Dr. Robinson had not fully made up his mind that diseased teeth and gums always brought on neuralgic affections, persons with offensive breath are more apt to be troubled with catarrhal difficulties; thinks that the malarious effects of the climate is oftener the cause of neuralgia than teeth.

Dr. HARRIS finds in most cases of offensive breath, the seat of disease is in the nasal organs, but had found some where teeth had become so encased in salivary calculus, as to be no mistake about the cause.

Dr. GEARY thinks he can detect the difference between the fetor of the teeth and other diseases of the mouth; wished to correct statement that diseased teeth were never the cause of neuralgia.

Dr. Porter read an essay on "Difficult Dentition." Accepted. Dr. Chittenden—"Essay on Dentition," which was, after some discussion by Drs. Geary, Robinson, and others, accepted.

The subject of Mechanical Dentistry was then taken up, and ably discussed by Dr. Cahoon, who spoke very highly of Dr. F. Y. Clark's method of getting up zinc casts; had used a short time, had no trouble to make a perfect cast.

Dr. Robinson, owing to the shrinkage of zinc, always scraped the surface of impression in the highest part of mouth—this always prevents the plate from rocking.

Dr. Benedict says the shrinkage of zinc is just what we want; a plate that will drop upon and fit the plaster cast, will not stay in the mouth; did not make air chambers, plate would stay better without; introduced a cast of irregular teeth, asking opinions of members as to what would be their method of procedure.

Dr. WHITE would remove molar to make room.

Dr. GEARY would fill all that could be saved; have the

mouth in as healthy condition as possible; would make rubber plate and regulate; thought could be straightened without loss of any.

Dr. Robinson would make rubber plate, and with wedges would spread and enlarge the whole arch.

Dr. Cahoon—case of irregularity in superior central incisors, shut inside of lower teeth, laterals outside; fitted plate, and with wedges of soft wood moved them outside in two days; thought the case in hand could be remedied with extracting.

Dr. HARRIS had case similar to this, and commenced the operation without extracting any teeth; the case was straightened, but owing to neglect on part of patient to follow directions and wear plate, the teeth had regained nearly their original position; would in this case extract one tooth on each side, to prevent the tendency to move back.

Dr. CHITTENDEN would take out bicuspid on each side, to make room.

Dr. Robinson had practiced that kind of business for ten years; had come to the conclusion that there was a more excellent way; had in his own family nine cases of irregularity—had treated them all successfully, and thought he knew something about it; would not take out any of the teeth.

Dr. CHITTENDEN thought many of the expensive operations would not pay, as many lost their teeth in this country at an early age.

The Treasurer's report was then read and adopted. Moved and carried, that Dr. Cahoon's bill be allowed.

Drs. Porter, Robinson, Chittenden, Benedict, Bancroft and White were duly elected delegates to the American Dental Association.

Adjourned to 7 o'clock in evening.

#### EVENING SESSION.

Called to order by President, and Dr. Benedict invited to chair, when Dr. Cahoon read an essay on "Dental Etiquette and Fees."

After spirited remarks on the essay by Drs. Chittenden, Robinson, Bancroft, Porter, Geary, and others, was adopted.

On motion,

Resolved, That the time of meeting be changed from January to April. Lost.

Moved that President appoint committee to select subjects for essays for next meeting. Drs. Robinson, Benedict, and Bartlett were appointed said committee.

Moved and carried, that when we adjourn, it be to meet in the city of Detroit.

The following resolutions were offered by Dr. Chittenden, and unanimously adopted:

Resolved, That the thanks of this association be returned to the Faculty of the Michigan Medical University, and particularly to Profs. Ford and Gunn, for their kindness and attendance to the members of this association during its session.

Resolved, That a copy of the above be presented to the

said Faculty.

The report of the Committee on Essays was then read and adopted:

1. Plugging Teeth.

- 2. Treatment of diseased Nerves and Fangs.
- 3. History of Dentistry.
- 4. Dentistry as a Profession.
- 5. Springing of Plates.
- 6. Vulcanite.

On motion, Drs. Chittenden, Bancroft and Geary were appointed committee to appoint essayists. Committee reported the following:

Plugging Teeth-Dr. Robinson.

. Treatment of diseased Nerves and Fangs-Dr. White.

History of Dentistry—Dr. Geary.

Dentistry as a Profession-Dr. Cahoon.

Springing of Plates—Dr. Bartlett.

Vulcanite-Dr. Porter.

Letters were read from Dr. Farney, of Detroit, and Dr. Mansfield, of Niles.

Dr. Robinson spoke at length of the importance of rubber to the profession; had used it, and was satisfied that dentures on that material had given better satisfaction than almost any substance.

Dr. Cahoon thought, if there was only one thing to rely upon in the construction of plates, that rubber would be that substance.

Closing remarks were made by Drs. Benedict, Cahoon, Chittenden, Robinson, and others, expressive of their gratification at the good attendance and good feeling that had been manifested, the desire to impart and receive anything pertaining to the interests of the profession,—hoping that when another year has finished its course, and we all convened again under the same auspices, that the results of this session may be seen in the increasing desire to unite more closely the interests of the dental profession of Michigan in one common brotherhood.

On motion,

Resolved, That the thanks of this association be tendered to S. D. Palmer, of Cincinnati, for his attendance and assistance in anticipating our wants, with the largest and finest stock of dental goods, instruments and teeth ever brought to Michigan.

On motion, adjourned to meet in the city of Detroit, on Tuesday, the 7th of January, 1862.

J. A. HARRIS, Sec'y.

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# CENTRAL OHIO DENTAL ASSOCIATION.

In pursuance of a call, informally made only a few weeks since, the dental profession was very creditably represented at the office of Dr. Riley, in the city of Columbus, on the 15th of January, 1861.

The meeting was called for the purpose of consultation on matters of professional interest, and for entering into such an arrangement as in the united judgment of the members pres-

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ent, would contribute most efficiently towards the elevation of the profession in Central Ohio, and of establishing a more friendly interchange of professional courtesy and good feeling.

On motion, Dr. Thos. McCune, of Columbus, was called to the chair, and Dr. J. G. Hamill, of Lancaster, was chosen Secretary.

Dr. Hamill moved that the President appoint a committee of three, to report a Constitution for the direction and government of a permanent organization. Adopted.

The President appointed Drs. Harrington, Riley and Hamill said committee.

After a short delay, the committee reported the following Constitution, which, on motion of Dr. Sedgwick, was received, and the committee discharged.

On motion of Dr. Harrington, the Constitution was taken up and considered, and voted upon by articles, all of which, after some amendments, were adopted.

On motion of Dr. Beauman, the Constitution, as amended, was adopted as a whole, and the members of the profession present, with one exception, subscribed their names thereto.

#### CONSTITUTION.

ARTICLE 1.—This Society shall be known by the name of the Central Ohio Dental Association.

ART. 2.—The objects of this association shall be the improvement of its members in the art and science of dentistry, and the cultivation of a more fraternal and reciprocal interchange of kindly feelings personally.

ART. 3.—The officers of this association shall consist of a President, a Vice-President, a Recording Secretary, a Corresponding Secretary, and a Treasurer.

ART. 4.—The officers of this association shall be elected by ballot annually, a majority vote only being necessary for a choice.

ART. 3.—The duties of the officers shall be the same as appropriately belong to such offices in all deliberative bodies.

ART. 6.—The membership of this association shall consist of all practicing dentists present at each meeting, who shall subscribe, or who shall have subscribed to this Constitution, and pay the assessment necessary for defraying the incidental expenses of each meeting, as herein-after provided for.

ART. 7.—This association shall be composed of two classes

-acting and honorary members.

ART. 8.—The meetings of this association shall be at such time and place as a majority of the members present at each meeting may decide.

ART. 9.—A majority of the members present at any meeting shall constitute a quorum for the transaction of business.

ART. 10.—The expenses attendant upon each meeting shall be paid by an equal assessment upon each of the members present at such meeting.

ART. 11.—This constitution may be altered or amended by a vote of two-thirds of the members present at any regular meeting, notice of such contemplated change having been given at the previous meeting.

After the signing of the Constitution, the election of officers, as therein provided for, was entered upon; and after due course of balloting, the following named members were declared elected to the several offices respectively:

Dr. J. G. Hamill, President;

" W. W. RILEY, Vice-President;

" J. B. Beauman, Recording Secretary;

"THOMAS M'CUNE, Corresponding Secretary;

" S. P. HARRINGTON, Treasurer.

Drs. Riley and Harrington were appointed to conduct the President elect to the chair.

On taking the chair, the President, after thanking the members for the honor conferred, and asking their assistance in the discharge of the duties they had just imposed upon him as presiding officer, declared the Central Ohio Dental Associ-

ation to be in working order, and exhorted the members to work constantly and laboriously for the accomplishment of its aims and interests.

On motion of Dr. Riley, Drs. W. E. Ide and J. W. Baker, of Columbus, were elected honorary members.

Dr. M'Cune moved an amendment to the Constitution, to the effect that honorary members be exonerated from assessments, which was laid over until the next meeting.

Dr. W. S. Sedgwick presented to the Society a fine specimen of an abnormal human stomach, showing the effects of impure metallic plates.

On motion, the thanks of the Society were tendered to Dr. Sedgwick for his donation.

On motion of Dr. M'Cune, the dentists of Newark were appointed a committee to make arrangements for the next meeting of the Society.

On motion, the thanks of the Society were tendered to Dr. Riley for the use of his office.

On motion, the Society adjourned to meet at Newark, O., on the 10th and 11th of July, 1861.

(Signed),

J. B. BEAUMAN, Sec'y.

MINUTES OF THE NINTH ANNUAL MEETING OF THE OHIO DENTAL COLLEGE ASSOCIATION.

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THE Association met according to adjournment, in the College building, at 10 o'clock, A. M., Tuesday, 19th of February, 1861.

The President, Dr. H. R. Smith, in the chair.

Members present:—Drs. Bonsall, H. R. Smith, Jas. Taylor, C. B. Chapman, T. Wood, Joseph Richardson, Samuel Wardle, J. T. Toland, Geo. Watt, J. Taft, H. A. Smith, and five others by proxy.

The Minutes of the last meeting were read.

The following communication was received and accepted:

CINCINNATI, O., Feb. 18th, 1861.

To the President of the Ohio College of Dental Surgery;

DEAR SIR,—We hereby resign our memberships of the Faculty of the Ohio College of Dental Surgery.

J. BYRD SMITH, GEO. WATT, C. B. CHAPMAN.

On motion of Dr. H. A. Smith-

Resolved, That the thanks of this Association be tendered to the retiring members of the Faculty, for the very able and efficient manner in which they have performed their duties.

Dr. Taylor presented to the Association the following suggestions and considerations, which have been discussed by the Faculty, having in view some changes in the Chairs, viz:

FACULTY MEETING, Feb. 16th, 1861.

On motion of Dr. James Taylor, it was

Resolved, That the number of Chairs be reduced to five.

On motion,

Resolved, That the Faculty suggest to the Board of Trustees a change in the chair of "Chemistry and Metallurgy" to that of "Chemistry and Physiology," and recommend the election of Dr. C. B. Chapman to the same.

Resolved, That the Faculty recommend to the Board of Trustees a change of the chair of "Institutes of Dental Science" to that of "Institutes of Medical and Dental Science."

Resolved, That the Faculty suggest to the Board of Trustees a change of the chair of "Anatomy and Physiology" to that of "Anatomy and Histology."

Resolved, That the Faculty recommend to the Board of Trustees a change of the chair of "Mechanical Dentistry" to that of "Mechanical Dentistry and Metallurgy."

There was considerable discussion in regard to the affairs of the Institution.

Adjourned to meet to-morrow, at 4 o'clock, P. M.

# WEDNESDAY, 20th, 4 o'CLOCK, P. M.

Association met according to adjournment.

Dr James Taylor presented a report of the names of the present stockholders, with the number of shares of stock held by each one. It is as follows:

Names.	No. of Shares.	Location.		
Tames Taylor		Cincinnati, Ohio.		
James Taylor, Chas. Bonsall, Thos. Wood,	1	66	66	
Thos Wood	$\overline{2}$	66	46	
Geo. Mendenhall, -	$\bar{1}$	66	66	
J B Smith		46	66	
J. B. Smith, J. M. Brown,	- 1	66	46	
Sam'l Wardle,	- 1		66	
H. R. Smith,		66	66	
J. Taft	<b>-</b> 3	66	66	
Jos. Richardson,	- 1	66	66	
H. A. Smith	- 1	66	66	
H. A. Smith, John T. Toland,	- 1	66	66	
C. B. Chapman, A. Berry, G. L. Van Emon, Edward Taylor	- 1	66	66	
A. Berry	- 1	Raymond,	Miss.	
G. L. Van Emon,	- 2	, To	enn.	
Edward Taylor, John Allen, W. M. Wright,	- 1	Cleveland,		
John Allen,	- 3	New York,		
W. M. Wright,	- 1	Pittsburgh		
A. S. Talbert,	- 1	Lexington,		
A. S. Talbert, C. W. Spalding,	2	St. Louis,	Mo.	
H. E. Peebles,	- 1	"	66	
H. J. B. M'Kellops, -	- 1	•		
Jas. Knapp,	- 1	New Orlea	ns, La.	
Jas. Knapp, Chas. E. Keels,	- 1		3.5	
W. S. Chandler,	- 1	Port Gibso		
D. Dougherty,	- 1	Danville, I		
M. N. Manlove,	- 1	Logansport, Ind.		
J. P. Ulrey,	1	Rising Sun, "		
J. W. Baxter,	- T	Warsaw, K	y.,	
E. Bray,	- 1	Evansville, Ind.		
E. A. Hermon,	- 1	Nashville,	Tenn.	
M. DeCamp,	- 1	Mansfield, Ohio.		
M. DeCamp, Geo. W. Keely,	- 1	Oxford, "		
Jones, white & M Curuy	, - 4	Philadelph	Do	
J. B. Dunlevy,	· - 1	Pittsburgh	Ind.	
W. R. Webster,	- 1	Richmond,	.III.	

Names.	No. of Shares.	Location.	
Geo. Watt,	- 1	Xenia, Ohio.	
James S. King,		Pittsburgh, Pa.	
G. J. Fredericks,		New Orleans, La	10
A. J. Reeve,		Mount Vernon,	
Edgar Taylor,		Palmyra, Mo.	31100
Samuel Griffith,		Louisville, Ky.	
G. B. Minor,		Milwaukee, Wis.	
W. W. Allport,	ī	Chicago, Ill.	
D. W. Perkins,		Milwaukee, Wis.	
I. B. Branch	- <u>1</u>	Galena, Ill.	
I. B. Branch, B. B. Ward,	- 1	, Ark.	•
J. M. Lewis,	· 1	Marion, Ill.	
Eli Collins,	- 1	Connersville, Ill.	
J. B. Martin,		Franklin, Ind.	
W. H. Goddard,		Louisville, Ky.	
The Treasurer would su			,
Cash received on rent for Coported on hand at last me			
Cash, balance of rent for 18	59 and 1	8ი0	
Cash, of H. A. Smith, on s			
Interest of stock per J. M.			
*			
			\$566.00
He has disbursed the follo			#100 FO
Paid bill for roofing College			\$162,50
Interest on mortgages			$400.00 \\ 43.00$
Putting in gas fixture			18.63
Bill for paving Interest on money born			22.92
incress on money born	to nou to	mood oxera oamays,	
			\$647.05
Cash received			566.00
			\$ 81.05
Floating debt reduced last y			
And interest on sums to thi	s date		17.85
Amount of floating debt no	ar days		\$947.67
Amount of floating debt no The account for 1860 and			φ211.01
CR Rent for College			\$510,00
Dr. Interest on Mortgages			, , , , , ,
Leaving \$110 to be applied			ot, which,
when paid in, will leave of		7.67.	
FEBRUARY 20, 1861.		JAS. TAYLOR, Tre	easurer.

The Dean presented the following report of the Faculty:

The Faculty respectfully present the following report of the session now about to close. The class has been unusually small this session. The causes for this state of things you can probably understand as well as the Faculty.

There are five candidates for graduation, viz: H. D. Ross, of Montreal, Canada; George S. Allan, of Cleveland, Ohio; William Wasson, of Tennessee; Amos Evans, of Hillsboro', O.; L. M. Griffis, of Hamilton, Ohio.

Dr. M. Wells has filled the place of Demonstrator of Operative and Mechanical Dentistry, and to the satisfaction of all concerned; he will probably soon leave College, and it will be necessary to secure the services of another. This is an important position, and one that in filling the Faculty would be much pleased to have the counsels and assistance of the Association. Some change will be made in the Faculty, but as this has come before you in another way, it is deemed unnecessary to refer to it in detail here. The facilities afforded to the class for practical work in the Infirmary and Laboratory have been much greater than at former times.

The following is a list of the operations performed by the class during the session:

INFIRMARY OPERATIONS.	
Full set on gold	Ĺ
	2
Full set continuous gum	L
Full upper "	2
Full set on rubber	L
Full upper sets on rubber 20	)
Partial pieces on rubber	
Full upper sets on silver 4	
Under set on "	L
Partial pieces on " 10	
Under sets cheoplasty	;
Pieces repaired 4	~
Pivot teeth	Ŀ
Pivot teeth	)
" other material	)
Cases of salivary calculus treated	
Teeth extracted400	)

There was a large amount of work presented, that could not be done for want of time.

M. Wells, Demonstrator.

J. TAFT, Dean.

On motion,

Resolved, That the suggestions submitted by the Faculty to the Association, in regard to the changes in the arrangement of the chairs, be adopted.

On motion,

Resolved, That we now proceed to recommend to the Board of Trustees a suitable person to fill the chair of Anatomy and Histology.

During the discussion of which, the Association adjourned to meet to-morrow, at 12 o'clock.

THURSDAY, Feb. 21, 1861.

Association met according to adjournment. The President being absent, Dr. Richardson, the 1st Vice-President, called the meeting to order.

The Minutes were read and approved.

On motion,

Resolved, That the stockholders relinquish the interest on their stock, for three years from this date, for the liquidation of the debt of the Institution.

The Association proceeded to appoint delegates to the National Dental Association, to meet at Cleveland in July next. The following persons were appointed:

Dr. Geo. W. Keely, of Oxford, O.; Dr. Geo. Watt, Xenia, O.; Dr. M. DeCamp, Mansfield, O.; Drs. Joseph Richardson, John T. Toland, H. A. Smith, and H. R. Smith, Cincinnati, O.; Dr. J. W. Baxter, Warsaw, Ky.; Dr. H. E. Peebles, St. Louis, Mo.; Dr. J. S. King, Pittsburgh, Pa.

Proceeded to the election of officers for the ensuing year. The following persons were elected:

President, Dr. C. Bonsall; 1st Vice-President, Dr. G. W. Baxter; 2d Vice-President, Dr. George Watt; Secretary, J. Taft; Treasurer, Dr. James Taylor.

The President and Secretary were requested to issue certificates to the delegates to the National Association.

The Association proceeded to nominate a person to fill the chair of Anatomy and Histology, when, upon balloting, Dr. W. H. Atkinson, of Cleveland, Ohio, was found to be unanimously chosen, subject to the Board of Trustees for election.

Association adjourned to meet at 10 o'clock, A. M., Tuesday, Feb. 18, 1862.

J. TAFT, Sec'y.

MINUTES OF THE 17TH ANNUAL MEETING OF THE MISS. VALLEY ASS'N. OF DENTAL SURGEONS.

THE Association met according to adjournment, in the first lecture room of the Ohio College of Dental Surgery, Feb. 20th, 1861, at 10 o'clock, A. M. The President, Dr. Wm. H. Atkinson, was in the chair, and opened the meeting with prayer.

Members present:—Drs. W. H. Atkinson, H. M'Cullum, James Taylor, Charles Bonsall, H. R. Smith, H. A. Smith, T. F. Davenport, J. Richardson, J. W. Baxter, Geo. F. Foote, J. A. McClelland, J. Taft, S. Wardle, and G. Watt.

The Minutes of the last annual meeting were read.

The Executive Committee presented the following report:
The Executive Committee beg leave to offer the following report on the order of business:

I. Reports of Officers.

II. Reports of Committees.

III. Election of Officers.

IV. Essays and Papers.

V. Presentation of new business.

VI. Discussion of the following subjects:

1. Professional Ethics.

2. Structure and Nutrition of Dental Tissues.

3. Reports of Cases-Written or Verbal.

4. Filling Teeth.

5. Mechanical Dentistry—Continuous Gum, Vulcanite Base, Gold Work.

G. F. FOOTE,
T. F. DAVENPORT,
STODDARD DRIGGS,

Committee.

The report was accepted and adopted.

Other Committees, and the Treasurer, not being ready to report, were excused for the time. On motion of Dr. Watt, the order of business was so modified as to make the election of officers the order of the day for  $11\frac{1}{2}$  A. M., to-morrow.

Essays and papers being called for, the President read an

essay on "IMPARTATION."

The Treasurer, Dr. C. Bonsall, presented his annual report, and requested that a committee be appointed to audit his account. The report was accepted, and Drs. Taylor and Taft appointed a committee to audit the accounts of the same.

Balance in Treasurer's hands at settlement, February 22d,

\$214.00

1860.

Feb. 27, Cash to Janitor, by Society's order...\$ 8.00
28, "Reporting Proceedings...... 15.00

Mar. 24, "Dr. Taft, Dean of College, for Microscope, by Society's order..... 100.00

1861.

Feb. 19, Cash, being balance of money lent by order to Publication Committee, in 1855 or '56, and not yet returned' 28.32---151.32

The auditing committee presented a report as follows:

The committee appointed to audit the Treasurer's accounts, respectfully report that they have examined the same, and find them correct.

J. TAYLOR, J. Committee.

Dr. Bonsall also tendered his resignation as Treasurer, and as a member of the Association, in the following communication:

To the Mississippi Valley Association of Dental Surgeons:

Gentlemen:—As I have been for the last year practically out of the profession, having engaged in other business more

suited to my age, and as my interest pecuniarily now requires that I should devote my time and attention to that business, I will ask you to accept my resignation as a member of the Association, and also as your Treasurer; thanking you, at the same time, for the confidence you have shown in me, by electing me to that office each year since the formation of the Society, now seventeen years. I assure you that my interest in this Association, and in every thing which tends to the improvement of Dental Science, will only cease with my life.

Yours respectfully, CHARLES BONSALL.

FEB. 20th, 1861.

It was moved and carried, that this resignation be accepted; and while the motion was pending, Drs. Taylor, Taft, Richardson, Knowlton, Atkinson, Watt and others expressed their regrets at losing a member so earnest, useful and influential as Dr. Bonsall, while, at the same time, they felt it their duty to acquiesce in his course.

On motion of Dr. Taft, Dr. Bonsall was elected an honorary member of the Association.

Adjourned to meet at 2, P. M.

### FIRST DAY .- AFTERNOON.

Met according to adjournment, President in the chair.

The remaining committees not being yet ready to report, the reading of essays was again called for. Dr. Atkinson read a paper on "Plates over Fangs."

On motion of Dr. Taft, the subject of this paper was now taken up for discussion.

On motion, all members of the profession, physicians as well as dentists, were invited to participate in the discussions.

The Committee on Membership presented the following names as candidates for membership: Drs. A. E. Lyman, Newton Falls, O.; B. D. Wheeler and Merit Wells, Cincinnati, O.; Geo. S. Allan, Cleveland, O.; who were all unanimously elected.

Adjourned till 9, A. M., to-morrow.

### SECOND DAY .- MORNING.

Met according to adjournment, President in the chair. The Minutes of yesterday were read and approved.

On motion of Dr. Taft, the appointment of delegates to the 'American Dental Association' was made the order of the day for 11, A. M., to-day.

The Committee on the Microscope reported as follows:

Your committee would respectfully report that a superior instrument has been purchased, according to the direction of the Association. The cost of the instrument, complete, was \$240, \$100 of which was paid from your treasury, and \$100 from members of the Faculty of the Dental College, and \$14 by the Cincinnati Local Society; the balance, \$26, has been paid by your committee.

The instrument is in complete order, and has been used for demonstrations to the class in the College, during the past session.

Your committee would suggest the propriety of having mounted, in systematic order, a series of sections of teeth, for the complete exhibition of their anatomical structure. Also, the appointment of a committee, whose duty it shall be to make microscopic investigations upon diseased conditions of the dental tissues, and report upon the same to the next annual meeting.

J. TAFT, W. H. ATKINSON, Committee.

The report was accepted and adopted, and the Chair was instructed to appoint a committee of three to carry out all its provisions; and, on motion of Dr. Foote, the committee was instructed not to exceed thirty dollars in the expenses of the anatomical specimens thus provided for. Drs. Taft, Richardson, and Atkinson were appointed said committee.

The President, by special request, now read a paper on "Diagnosis."

The regular order of discussions was now taken up, and pending the discussion of No. 1, the time for the appointment

of delegates to the "American Dental Association" arrived. It was moved and carried, that the Chair appoint; and, accordingly, the following delegates were appointed: Drs. T. F. Davenport, B. D. Wheeler, Geo. F. Foote, H. M'Cullum, J. A. M'Clelland, and J. Taft. On motion of Dr. Watt, the delegates were empowered to fill vacancies, should any occur.

Proceeded to the election of officers for the ensuing year, which resulted as follows:

H. M'Cullum, President; J. Richardson, Vice-President; T. F. Davenport, Corresponding Secretary; George Watt, Recording Secretary; J. Taft, Treasurer; H. A. Smith, Geo. Foote, and A. E. Lyman, Executive Committee; J. W. Baxter, W. H. Atkinson, and J. Richardson, Committee on Membership.

Adjourned till 2 P. M.

### SECOND DAY .-- AFTERNOON.

Met according to adjournment. The President appointed Drs. Wheeler and Richardson a committee to conduct the President elect to the chair.

President M'Cullum, on taking the chair, made some interesting and appropriate remarks, thanking the Association for the honor, and giving some practical suggestions tending to expedite business.

Proceeded with the regular order of discussions, and pending the consideration of No. 3, adjourned till  $7\frac{1}{2}$  this evening.

### SECOND DAY .- EVENING.

Met in accordance with adjournment, President in the chair. Continued the consideration of No. 3, during the entire session. Adjourned till 9, A. M., to-morrow.

#### THIRD DAY .- MORNING.

Met according to adjournment. On motion, the regular discussions were suspended, to take up some miscellaneous business. On motion of Dr. H. A. Smith, the Treasurer was

instructed to pay the sum of twenty dollars, toward paying for the microscope, on condition that the fourteen dollars paid by the Cincinnati Dental Society be refunded. This course seemed necessary, as the original resolution seemed to make no provision for the joint use of the instrument by other societies. The Treasurer was also instructed to pay six dollars to the Janitor for his services to the Association, and ten dollars to the Recording Secretary for reporting the discussions of this meeting.

On motion, the President was instructed to appoint four Essayists for the next annual meeting, and, accordingly, appointed Drs. Geo. F. Foote, H. A. Smith, W. H. Atkinson, and J. Taft.

The Committee on the Prize Essay presented the following report:

Your committee on the Prize Essay would respectfully report that nothing has been done in the way of issuing a new edition of the Essay since the last meeting. The author has not had time to revise the work. There has been some demand for the work, but no supply. It is proposed to have it revised, and a new edition issued as soon as practicable.

J. TAFT, J. RICHARDSON, Committee.

The report was accepted, and the committee re-appointed, with their former instructions.

Resumed the regular discussions, taking up No. 4; and at the close of its discussion, on motion, adjourned to meet at the same place, on Wednesday, February 19th, 1862, at 10 o'clock, A. M.

GEO. WATT, Rec. Sec'y.

APPENDIX, FOR CONVENIENT REFERENCE.

President—Dr. H. M'Cullum.
Vice-President—J. Richardson.
Corresponding Secretary—T. F. Davenport.
Recording Secretary—Geo. Watt.
Treasurer—J. Taft.

Executive Committee—H. A. SMITH, G. F. FOOTE, A. E. LYMAN.

Committee on Membership—J. W. BAXTER, W. H. ATKIN-SON, J. RICHARDSON.

Delegates to Am. Dental Association—T. F. DAVENPORT, B. D. WHEELER, G. F. FOOTE, H. M'CULLUM, J. A. M'CLEALAND, J. TAFT.

Essayists—G. F. FOOTE, H. A. SMITH, W. H. ATKINSON, J. TAFT.

Committee on Microscope—J. Taft, J. Richardson, W. H. Atkinson.

Committee on Prize Essay-J. TAFT, J. RICHARDSON.

## Selections.

Causes which Modify the Action of Anæsthetics-DANGERS INCIDENT TO ANÆSTHESIA.—Lecture V, Tuesday, May 29, 1860.—This lecture was commenced by the observation that age exercises a great influence on the action of an anæsthetic of any kind, either voluble or solid; young children are more speedily and entirely brought under the influence of narcotics than are adults or middle-aged persons. In old persons verging on their second childhood, narcotics, again, are speedy in their action, though not quite to the extent that they are in the young: this property extends to all anæsthetics. At the same time, it is worthy of notice that volatile narcotics are more safe to administer to children (on account of the quick respiration) than they are to adults, and no death has been known to occur from the administration of chloroform to children under five years of age. The solid narcotics, on the contrary, are very dangerous to administer to children.

The old are brought much more easily under the effects of chloroform than are middle-aged persons. There are, of course, exceptions to every rule. Females, as a rule, also are more speedily rendered insensible by chloroform than males: but here, again, there are exceptions. We may further set it down as a rule, that people of a strong physical formation, with a powerful, vigorous frame, are the most difficult to bring under the influence of an anæsthetic: Dr. Snow says, that the only case in which he ever had any difficulty in bringing a person under the influence of chloroform was an athletic. Much depends on the formation of the chest; for we find that a person with a small, narrow chest, and quick respiration, is very easily narcotised; with a broad-chested man the reverse obtains. Dr. Richardson once saw a young man rendered completely insensible in fifteen inspirations; and from the experience that he (Dr. R.) has had, he can generally tell by looking at a patient bow much chloroform will be requisite to put the patient in an anæsthetic state. action of anæsthetics may be modified by disease. Hysteria sometimes preduces a negative effect upon the action of chlo-Dr. Snow always doubted this, never having had a case of the kind under his notice; but Dr. Richardson is in a position to prove it, having had a case, it appeared, in which hysterical sobbing during inhalation entirely prevented the insensibility. After trying for two hours ineffectually to bring the patient under the influence of the chloroform, he had to desist, as the heart was getting irregular. It is possible that in lysteria some alteration takes place in the composition of the blood, which prevents the absorption of the chloroform, thereby very much reducing the action of the anæsthetic.

With regard to the best means of administering chloroform in operations on the teeth, he (Dr. R.) is of opinion that a sitting position, with the head a little back, is the best. inhalation in these operations is to be carried to the end of the third degree. Some persons operate during the first or second degrees; but as the greatest danger from chloroform arises in the first and second degrees, it is much the safest plan to push on to the third degree. Sometimes, indeed, in the second degree the mouth is firmly closed, owing to the contraction of muscle. In this case, no attempt to force the mouth open by means of a wedge, or in any other way, should he used, but the administration should be carried on until the third degree arrives; the jaw will then fall of itself. Dr. Richardson recommended a very good plan to the notice of the dentist particularly, as being simple, effective, and admirably adapted for cases of prolonged operations in the mouth. VOL. XV.—12.

which the French have the merit of having introduced. It consists in having a tube fitted to the inhaler; after the patient is insensible, this tube is passed into one nostril of the patient, thereby causing him to inhale chloroform by one nostril, and

air by the other.

A theory has been started by Dr. James Arnott (author of congelation), that in addition to the immediate dangers attending the administration of chloroform, there are secondary dangers, and even death three or four days after its administration, owing to shock, or the production of a low febrile state. Now, physiologically, this is not feasible; both Dr. Snow and Mr. Nunneley agree that chloroform has but one action—that of producing narcotism, and immediate death if carried beyond the proper limits. It can not possibly produce febrile symptoms; for after it is taken into the system, it undergoes no alteration, but remains as chloroform until it is passed out again; which transition takes place very rapidly, owing to the extreme volatility of the vapor. So far from chloroform causing shock to the system, Dr. Richardson argued that it prevented shock instead; and that now, with the aid of chloroform, many very serious operations, such as ovariotomy, amputations of the hip-joint and others, are frequently and successfully performed; whereas before the introduction of anæsthesia, such operations were hardly ever attempted, as the patient seldom recovered from the shock of the operation.

Most of the American dentists use ether in their operations. and there is no doubt but that it is less dangerous than chloroform—in fact, we have no very clear case of a death having arisen from the administration of ether. Mr. Nunn was supposed to have had a patient who died from its effects, but the proofs were faulty. Some persons use the argument, that ether has not been applied a sufficient number of times to thoroughly prove its effects; but if those persons would only take the trouble to make inquiries, they would find that it has been quite as extensively used as chloroform, though mostly in France and America. The greatest objection to ether lies in the fact that it is less ready, and not so determinate. Amylene would have every advantage of both chloroform and ether, if we could only get it pure. Dutch liquid has been used in about one hundred cases without a death occurring; but it has not been used a sufficient number of times to enable us thoroughly to judge of its qualities. The monochloruretted chloride of ethyle is thought by some to be better than

chloroform; but that also has not been used sufficiently for us to arrive at an accurate conclusion.

The deaths that have occurred from chloroform are numerous. There is no denying that there have been at least one hundred and fifty cases of death, while many have occurred without any notice being taken of them. Dr. Richardson is aware of five unpublished deaths, and a friend of his of four more. Dr. Arnott says that if opium killed as many persons as chloroform, its use would be prohibited by law. The deaths occur either from the immediate effects of the chloroform, or from the too long administration of it; generally from the first of these two causes, the second seldom occurring, unless through carelessness. In one case, a lady administered it to herself during her confinement, and died from excess of inhalation.

There has been much discussion and theory as to the immediate cause of death from chloroform. Some think that it is through spasm of the glottis; some, by asphyxia; others, that it is caused by the tongue dropping back upon the glottis, and the like. The fact is, there has been no precision in the examinations of patients dying from chloroform; for every one about the patient is alarmed, the galvanic apparatus or artificial respiration is applied, and every one is so anxiously endeavoring to preserve life, and no one is taking minute observations of the precise symptoms of the dying patient therefore it is impossible to tell with any certainty from the human subject the actual cause of death. All the facts we have, or nearly all, are derived from experiments upon animals. Dr. Richardson has performed a number of experiments with various animals, and the conclusion he has come to with regard to the reason of death is, that it takes place through paralysis of the heart, the view first advanced by Dr. Sibson. He (Dr. Richardson) injected some chloroform into the aorta, and so into the coronary arteries of an animal; immediate paralysis of the heart was the result. In one experiment, he removed the heart from the body, and placed it, still beating, on the table. On bringing the vapor of chloroform to bear upon it, the contractions stopped immediately. There is no doubt, indeed, but that chloroform has a direct action on the heart, being brought to it by the blood. At its first introduction into the organ (in the first degree of anæsthesia), the vapor sometimes causes over-excitement of the organ, and death. One fact that goes a great way to prove

this theory is, that out of fifty cases of deaths from chloroform recorded by Dr. Snow in his work, all with but three exceptions died from cardiac syncope, or other form of heart disease, and all except five died within five minutes. The deaths were nearly all in cases of small operations, eighty per cent. being in teeth extractions; many of the deaths occurred be-

fore the operation was attempted.

Some object to the administering of chloroform in tubercular diseases of the lung, such as tubercle; but Dr. Snow has administered it with success to a great number of patients afflicted with tubercular disease. Dr. Richardson has done the same, and considers that, as a rule, no class of persons take it better; at the same time, he does not dispute that there might be cases where it would not be advisable to administer it. In all cases, the organ we have most to consider is the heart. Dr. Richardson here gave a condensed account of the anatomy and physiology of that organ, and the circulation of the blood through it. He then spoke of the pathology of the heart, explaining how there are two kinds of diseases, viz., valvular disease and structural disease. In the first, the valves do not perform their functions properly; the second includes hypertrophy of the heart; thinness or weakness in any portion of the muscular wall; and softening of the heart, as from fatty degeneration. All these diseases may be discovered by auscultation; and it is worthy of notice that it is not the valvular, but the structural disease that is the most dangerous.

In conclusion, Dr. Richardson called attention to a few of the leading signs by which we might be able to judge as to whether a patient was in a fit state to receive chloroform. They were as follows:—If we find that the patient is generally feeble, with a pulse whose beat is feeble, depressed, and irregular—or if we find a very plethoric condition of body, we should be chary in attempting to administer the narcotic without first examining the patient by auscultation. If the result of that proves unmistakably that the patient is suffering from disease of the walls of the heart, we must object to the administration of any anæsthetic.—Dr. Richardson's Lec-

tures, reported for the Dental Review.

THE STUDY OF MEDICAL ETHICS.—The Code of Ethics of the American Medical Association has now been the recognized standard of medical morals in this country for nearly fourteen years. It was prepared by the wisest members of our profession, among whom we recognize the honored and trustworthy names of Drs. Bell, Hays, and Emerson, of Philadelphia; Prof. Clark, of N. Y, and Prof. Arnold, of Ga. When submitted to the Convention of 1847, the Code was adopted unanimously. Since that period no one has dissented from its provisions, but every legitimate medical organization in the country has adopted it; and thus it stands as our This document defines with admirable organic medical law. simplicity and purity of language, and with the nicest appreciation of the exalted spirit of scientific medicine, the duties of physicians to each other as members of a liberal profession, and the reciprocal obligations which exist between them and the individual members of society. It is, in a word, the guide to the formation of a true medical character. And yet how little is this regarded by physicians, and how few are familiar with its admirable provisions! Of the hundreds of graduates who are annually introduced to the ranks of the profession, how few are aware of even the existence of such a chart to professional excellence, much less imbued with its spirit!

There are at this time between four and five thousand medical students receiving instruction at the various colleges in this These young gentlemen are daily and sufficiently drilled in anatomy, physiology, chemistry, microscopy, obstetrics, and therapeutics, while they are employed far into the night in dissecting, and thus verifying upon the dead subject the text of the morning lecture. Class after class thus entering college, is graduated with honors more or less emphatic, and joins the great procession of hygeian ministers in the world at large. It is usual, on the commencement day, for some venerable physician to address the departing graduates on the well known duties and responsibilities awaiting them in their new relations to society; to encourage them by the hope of success; to stimulate their ambition by the examples of great lives which have adorned the profession; then, with a parting blessing, the young Esculapians are dismissed to their

great encounter with the realities of medical practice.

Now, except in the commencement address, where accidentally it may be alluded to, we would ask whether it is usual in any of our medical schools to deliver any set lectures on

medical ethics? Is even one annually and invariably delivered to the students? We ask this for information, because we have never heard that any such dissertations were read as

part of the curriculum of instruction.

Admitting this to be so, the inquiry naturally arises whether our colleges can be said to do their whole duty towards students in fitting them to practice successfully, when they fail to instruct them in those rules of professional intercourse whose observance brings them, antecedently even to intellectual merits, the approbation of their fellow-practitioners, and on the contrary, whose violation insures them the certain and immediate reprobation and scorn of their professional breth-If an individual wishes to rise to meritorious eminence in any profession, he must, first of all things, secure to himself the sympathy and the respect of his fellow-laborers. Without that he can never permanently sustain his status among gentlemen. For, although he may rise spasmodically, and flutter in mid air awhile upon waxen wings, yet the inexorable sunlight of Truth will speedily dissolve these frail supports, and leave him to flounder among the shoals of pretenders who swarm in the lower depths of the profession.

It does not follow because a man's brain is as full of learning as Lord Bacon's, that he may not at the same time be a most unmitigated boor, whose self-conceit or selfishness leads him alike to trample upon the rights and the feelings of his professional brethren, in his insensate haste to become rich, These things are of too or to gain the bubble reputation. frequent occurrence not to have been noticed by all, and it is not difficult in any community to point out some physicians who, great enough in intellectuality, are yet moral idiots in respect to the dignity and the honor of the profession they Such men, whatever their talents, their wealth, or their factitious distinctions, are still living in virtual outlawry to the canons of medical ethics, nor can the ephemeral praises of an indiscriminate press indemnify them for the lost sympathy and respect of their fellows. Pitiable indeed is the condition of that man who is shunned by his peers, whose name provokes only contempt, and who is dismissed from the thoughts as one fallen from the high estate of a Christian gentleman and an honorable man.

Let these things, in all their length, breadth and strength of application, be taught to the young men in our medical colleges. Let them understand that the moral side of a phy-

sician's character is quite as important as the intellectual. Nay, that in advance even of any knowledge of his intellectual capacities, the public will be favorably inclined towards him whom his fellow practitioners recommend and advance. It would take no large amount of time, nor make any serious interruption in the course of medical studies, to have one lecture a week delivered on the subject of professional ethics. There are gentlemen enough in and out of our medical faculties who would be happy to do thus much to preserve the dignity of the profession; who would be willing to instruct students in that code of medical ethics which is the basis of professional respectability. And, in particular, it will be a source of satisfaction and pride to our colleges to know that, besides making physicians, they have made men of refinement and dignity. Each faculty in its own college thus becomes a humanizer, as well as an educator of young men.

In this fervent hope we now commend the subject to the earnest attention of our medical schools, not doubting that they will see in these crude suggestions the inklings of so much truth as will prompt them to incorporate in the course of their instruction some few lectures on medical ethics.—

American Medical Times.

EXTENSIVE MEDULLARY CANCER OF THE ANTRUM—REMOVAL OF THE TUMOR, WITH THE SUPERIOR MAXILLARY BONE AND ADJACENT BONY AND SOFT PARTS.—This is in an elderly female from the interior of the State. The affection is of some eighteen months' standing. The tumor occupies the antrum of the upper jaw on the right side, and by careful examination of some of the matter under the microscope, it has been found to be soft cancer, or fungus hæmatodes.

These tumors of the antrum are seen in persons of all ages, probably more frequently in advanced life, though Dr. Pancoast has seen them in children, in babes, and operated on them.

They begin, usually, in the lining membrane of the antrum, a mucous membrane, over the outer surface of which, between it and the bone, runs a plexus of nerves, many of which go to the incisor teeth.

In elderly people this antrum is a large cavity, and being bounded inferiorly by the alveolar ridge, which disappears when the teeth disappear or are removed, there remains often but a very thin structure, indeed, below the lower wall of the antrum. If there is a chronic inflammation of this membrane, giving rise to deposits, it will, at first, be accompanied with pain, by involving the plexus of nerves over the outer surface. The first intimations of this disease are excessive pains in the cheek bone, coming on periodically, for some reason that we do not understand.

In the present case, these pains were thought to be toothache, and one tooth after another was extracted, until all the teeth in the upper jaw were removed. But the pain continued. After a while, an opening took place in the mouth, near where one tooth had been drawn. Sometimes, indeed, these diseases of the antrum arise in consequence of disease of the

inner lining or socket of the tooth.

From this opening there is a sanious discharge, excessively offensive, and passing into the nostril. There is constant and continuous pain, and the disease has extended high on the jaw, and very probably the absorbent vessels have gradually taken away the bone, so that there may be no bony wall at all. In addition to this, the disease has involved the masseter muscle.

There is anchylosis of the jaw, and the patient's mouth constantly open. It is one year since all the teeth have been removed

The only chance to cure this case is to remove the whole diseased mass.

Whenever the disease has not surmounted the boundaries of the cavity, there is a good chance of effecting a cure; for the operation can be made entirely beyond the boundary of the disease; but when it has involved the periosteum and is contiguous with the substance of the cheek, it almost always

returns and finally destroys the patient.

Various methods have been advised for performing the operation; a favorite one is a V shaped incision. Another is sometimes made in the shape of the letter N. In the present case, where there will be a difficulty in removing all the diseased portions of tissue, the object will be best accomplished by means of a V shaped incision, with the apex down and the base upwards.

The operation was then performed by making an incision in the vertical line, across the face, over the orbicularis muscle, and over the angle of the mouth, cutting the facial artery; the other incision was made from near the inner canthus of the eye to that part of the lip over the canine tooth. When the parts were exposed, the orbital process of the malar bone

was divided. After separating the nasal process of the upper maxillary bone, the roof of the mouth was divided with a chain saw, and the palate bone separated from the velum. During the operation, the masseter muscle was found to be diseased, and part was cut away; the malar bone and part of the zygomatic process, belonging to the temporal bone, had to be taken away. Many of the branches of the internal maxillary artery were cut across, but the main trunk was not interfered with. The disease involving the coronoid process of the lower jaw, a part was removed, cutting across the tendon of the temporal muscle.

The infiltration of cancerous matter extended into the internal pterygoid muscle, and its origin in the fascia between the pterygoid plates in the pterygoid process of the sphenoid bone. This was scraped out and the hot iron applied to the

parts.

Jan. 5th. The patient has had no fever, and rested pretty well at night, though a little uneasy.

The wound united everywhere by the first intention.

The periosteum which lines the lower portion of the orbital cavity, having been taken away on account of its morbid appearance, this gave rise to some inflammation, which produced cedema of the lid.

The sutures have been taken away and a pad has been placed in the mouth to fill out the cheek, until nature shall have overcome the necessity for such a resort by the organization of plastic matter, which will be effused from the surface of the wounds made in the operation.

The patient has been allowed beef tea and milk punch. It is important to bear in mind that in these cases supporting

treatment is generally necessary.

All the lines of incision about the face were curved, not only because the deformity would be thereby diminished, but also because there is less power of the muscles to draw open the sides of the wounds, than if the parts had been divided in straight lines. Another object gained is, that by these means every portion of the skin can be properly adjusted, and the natural position of the two flaps restored, which is necessary, in order to avoid paralysis of the face, which might otherwise ensue; for, in these operations the nerves of the face are necessarily divided; but if they are very nicely approximated, there will be little or no interruption in the transmission of the nervous influence.—Medical and Surgical Reporter.

# Correspondence.

MESSRS. EDITORS:—I am sorry to say that I can not agree with the tenor of your article on the subject of *Dental Patents*, which appeared in the December Register.

There are some strong points in favor of patents, which have been presented at various times, and others that occur to me, by which I am forced to the conclusion that the encouragement afforded by the patent laws is powerfully promotive of discoveries and improvements.

Gain, profit or remuneration, call it what we may, is, I am satisfied, the chief incentive to discoveries, the attraction and influence which leads, encourages and sustains the discoverer through all his varied researches, experiments and trials, and that supplies renewed vigor for continued effort, until the goal be reached. I therefore assert boldly, as it is my honest conviction, that if the encouragement—the hope of gain,—afforded by a patent be withdrawn, discoveries and improvements will diminish in number and importance; and further, that whatever may be discovered, will be kept locked up in the breast of its owner—a profound secret—the public debarred of its benefits, and it be in danger of dying with its possessor, as has been the fate of many valuable discoveries.

We are told that in the matter of compounding oil colors, some of the old masters possessed a secret by which their pictures retain to this day their pristine beauty and brilliancy of color. No artist of our time will claim such qualities for the colors now in use. The same is asserted of the art of glass staining, that in past ages it existed in greater perfection than now. To come to a more recent period, and to the apparently insignificant, but really important article of draw plates, which the reader will understand is used largely in the mechanic arts for drawing out wire. Fragments of plates designed for this purpose are occasionally found, but not often, that are evidently a composition, so soft that they may

readily be filed, and the holes in which may be closed up with a hammer, and then with a broach be easily drilled out to the size required. These plates resist the wear of constant use to an astonishing degree, and may be used as long as there is a particle of the metal left, and therefore their economy fully warrants the almost fabulous prices paid for them. The composition of this plate was a secret, as was the compounding of colors and the staining of glass, and now lost to the world, having died with their authors, with many other and more important discoveries, included in the "lost arts," made prior to the existence of patent laws. Now, is it not reasonable to suppose that if all such discoveries had been protected by patents, the world would still be enjoying their benefits?

Patents and copy-rights have often been compared, and to my mind the comparison furnishes a strong argument in favor of the former. Why does an author copy-right his book but that he may enjoy the exclusive sale, and thus profit by his labor? Now, he uses the vernacular, which is not patentable, and he may not impart a new idea, but the venture is his own, the book stands or falls upon its merits or demerits, and the public will buy or not, according to its worth. So it should be with patents; they should find their level, and should receive support only in proportion to their worth. It does no more follow that every thing that is patented is good, than that every thing that is copy-righted is good. Now, no one finds fault with the law of copy-right or with the use made of it—then why should we complain of and oppose patents?

Two things have greatly aided in bringing patents into disrepute in the dental profession: First, the enormous and disproportionate price demanded for privilege to use, which is a sequence of the extravagant claims and expectations of the patentees. Second, the tendency on the part of the profession to buy without due thought and investigation, on the presumption apparently, that every thing that is patented must be good. Now, I hold that the buyer should not find fault with the principle of patents, if he deceive himself or allow others to deceive him in a purchase of this kind, for in such an operation he should take nothing upon trust (and he has a much better opportunity to investigate a patent than a secret process), and if he can not fully satisfy himself that it has advantages, he should not touch it. That there are so many worthless things patented and palmed upon the profession, is mainly owing to the simple fact that purchasers (or dupes) may always be found. The corrective, therefore, is with the profession, who by a proper course, may put a stop to this indiscriminate patenting, which is discreditable, sustaining only those of acknowledged merit.

Methods of operating or manipulating in the surgical department of our profession can not, I am happy to say, as a general thing, be patented; but mechanical contrivances can, and it is in this direction that improvements and discoveries tend, and in which there is a large field and an open door to all who will enter; but remove the strong inducement of profit, and the entries, as well as discoveries, will, I fear, be very limited.

As to the moral involved in a learned profession appearing to encourage and sustain professional patents, I can say, that the good of the people, the comfort and happiness of the human family, is the first consideration, and if their interests are served by such a course, as I honestly believe they are, then the stigma, if stigma it be, may well be borne by the profession.

A favorite and much lauded medical view of this subject is, that the physician must be self-sacrificing, above, and even hold in contempt the acquirement of "filthy lucre," willing to spend and be spent for the good of suffering humanity. This is the profession, but what is the practice? The young physician, in commencing his practice, finds it necessary to make his charges very moderate, but as his practice increases, and circumstances warrant, his charges increase, and it is his ambition, for the honor as well as the profit, to become the happy recipient of large fees; and still more, as is often the case in large cities, he does not hesitate to compound with the apothecary for a per centage on his prescriptions. It is just

so with the dentist; as the extent of his practice will warrant, up goes his prices from one dollar, step by step, to five or even ten dollars as the case may be, for a single filling. Now is not this the general practice, and does it not show that the love of gain has its influence in these, as well as in all other pursuits in life?

In a conversation with a dental acquaintance on the subject of professional charges, the question was asked, "What is the difference ordinarily between a three and a five dollar filling?" The answer was, "precisely two dollars." And this really is generally the only difference, and which fact but adds to the evidence in favor of the theory here advanced.

I do not wish to be understood as opposing the principle of ample remuneration, for I have always contended that that was a matter for the joint consideration of the practitioner and his patients; but I want to show that this beautiful and benevolent idea of self-denial and self-sacrifice, professed by the medical profession, is not carried out in their practice,—that this high and holy devotion to the relief of all "the ills that flesh is heir to," is not wholly uninfluenced by the "almighty dollar," and that, therefore, their professions on the score of motive are fallacious; and that gain, profit or remuneration, is the inspiration, or chief propelling power to human effort and enterprise; and that while we may regret it we dare not deny it.

These are my propositions in brief: 1st. That the hope of gain leads to discoveries, and that this hope is centered in the procurement and protection of a patent. 2d. That patents are preferable to improvements kept secret; first, because the whole public may enjoy its benefits, as it is open for purchase; second, that the buyer may better ascertain its merits before purchasing than he can that of a secret process; and third, that the improvement will never be lost. 3d. That the disposition to patent every trifling thing in the way of improvement may, to a great extent, be corrected by a more discriminate course on the part of the profession, in confining themselves to the support of only those of unquestioned importance, and in discountenancing and otherwise condemning all others.

Dental Machinery.—Permit me, on behalf of the profession, to make some acknowledgement of the enterprise and ingenuity of Mr. Henry Snowden, of Baltimore, who, I venture to say, has the most complete and economical manufactory of dental machinery and appliances to be found anywhere.

By the use of steam power, very economically managed, he operates quite a variety of machinery, by which hand labor is saved to an astonishing extent,—the most perfect system of labor-saving in this branch of manufactures I ever saw,—all of which enables him to supply the trade and the profession direct with all the various articles manufactured by him, such as chairs, spittoons, foot-pieces, operating cases, desks, and tables; his much admired and very popular dental lathes and grinding apparatus, of various patterns and prices; also, forceps, pluggers, scalers and excavators; ingot moulds, soldering lamps and an innumerable variety of little things;—indeed, almost every thing in the way of machinery, instruments and tools required by the dentist. Beside, he is constantly devising and bringing out new aids in this line.

Such enterprise as this should not go unrewarded, and it is but justice to thus make public recognition of his valuable

services to the material interests of the profession.

The Register.—Allow me to congratulate you upon the handsome appearance of your last (February) issue. The Register, I must say, gives satisfactory evidence of energy and enterprise, as well as good taste, on the part of the publisher; and earnestness, unflagging interest and ability on the part of the Editors, all of which are appreciated by the profession, as is shown by the extent and character of its original department and the large subscription list, which I am assured

it enjoys.

I like the Register for these reasons, and for its peculiarly agreeable quality of sociability. It apparently does not consider it undignified or derogatory to the character of a professional journal, nor think it a sin, to say something calculated to provoke a laugh, or to indulge in familiar intercourse. It is not stiff, starched not stilted; is not tied down to dry disquisitions, dignified drivellings, or frigid formalities, but shows some fire, which gives out warmth, and when I take hold of it, I feel like communing with a friend. May it ever maintain this character, and if peculiar in it, rejoice in the peculiarity.

Yours,

O. U. C.

PHILADELPHIA, Feb. 15, 1861.

### Editorial.

### OUR IGNORANCE

Sometimes discourages, and sometimes disgusts us; hence, we prefer to expose it, rather than be tortured by its continuance. So here goes. We didn't know it was very cute—there now, that's a vulgarism—we didn't know it was very acute to have the good sense to use iodine "in the treatment of chronic periodontitis accompanied by a constant discharge of pus," till we learned the fact from the editorial department of the February Cosmos. There we are told that, "useful as the remedy is, it is only, however, within the past four years that the attention of the profession was first directed to it by Dr. Garretson," which may be all true enough; but so common was this agent thus used, in these regions, when we came into the profession, that we, ignorantly it is true, supposed every dentist used it whenever the case seemed to require it. We used it for such cases before we came into the profession. The first time we ever saw Dr. Atkinson, if our memory is correct, he was pumping tincture of iodine into an alveolar abscess. was in 1854. But he was, perhaps, like us, ignorant of the fact that there was need to direct the attention of the profession to it; and hence, this duty was left for Dr. Garretson, and we are heartily glad he has performed it. But we still think that a reasonably extended medical education would suggest the remedy, without special attention being called to it.

Then, there is the cork attachment to a lathe, the paternity of which seems to be in dispute. And we hope those who are settling this question will next tell us who invented the wagon. Till this cork dispute arose, we supposed every body that wanted to, used corks attached to lathes, in polishing plates. We saw Dr. Taft using them in 1849, but not attached by a "screw," or gun-wiper contrivance, but inserted into a cylinder, attached to the lathe. They are in common use out here.

Now, the only excuse we can plead for our ignorance is, that we came into the profession at the eleventh hour; for, though one of the old ones, our age was mainly attained in another profession.

### DR. CHARLES BONSALL.

By the Minutes of the last meeting of the Mississippi Valley Association, it will be seen that Dr. Bonsall has resigned his office and membership in the Association, and has retired from the practice of dentistry. How strange the Minutes of the Association will look without the name of Dr. Bonsall among the "Members present!" for he was always present. And no "Treasurer's Report," with his familiar signature appended! We scarcely know how to record the Minutes without it. No other Treasurer has ever reported to the Association; and in all the seventeen years of his official services, the reports of the auditing committees, appointed by his request, have re-echoed the stereotyped "Your committee, having examined the Treasurer's accounts, find them correct." Dr. Bonsall was one of the founders of the Association, attended all its meetings, took an active interest in all its proceedings, and retires from it only as he retires from the profession. He has served the profession long, and he has served it well; and, as he retires from it, to engage in pursuits more congenial to his circumstances, and more compatible with his age, he carries with him the best wishes of all its members. His resignation reminds us that we must all resign our places some day-not only as members of the dental profession, but as actors in the great drama of life; let us, therefore, follow the upright example of our retiring father and friend, trusting that when called to give an account of our stewardship, it may be said of each of us, "having examined his accounts, do find them correct." W. --00-

### IODINE.

At the suggestion of Dr. Atkinson, we have used iodine either in the form of tincture, or crystal, in the treatment of sensitive dentine, and with very marked success. In cases where there is a sensitive condition, that renders treatment necessary, apply a pledget of cotton moistened with the tincture of iodine, and seal up with wax, and let it remain for twelve to twenty-four hours, when the sensitiveness will be entirely gone, or very much relieved. By enclosing a crystal of iodine in the cavity, the same object will be attained. The dentine often becomes sensitive after excavation, if the cavity is left unfilled for a day or two; this is prevented by the application of iodine. This agent accomplishes the object better than creosote or any similar agent that we have tried.

### THE

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# Original Essays and Communications.

HUMAN KNOWLEDGE, NATURAL AND SUPERNATU-RAL—ITS CHANNELS AND FOUNDATION.

AN ADDRESS,

Delivered at the Commencement of the Ohio College of Dental Surgery, 1861.

BY B. P. AYDELOTT, D. D.,

President of the Board of Trustees.

Our subject involves the profoundest depths of metaphysics, and yet we shall not be metaphysical, in the ordinary sense of the term; at least, we will endeavor not to be so.

We do not feel obligated, therefore, on the present occasion, by the precise definitions of metaphysical or psychological science; neither are we bound to use only its terminology or language; or indeed to have recourse to these at all where we can get along as well without them. We will try to walk only in the light of common sense, and employ just such words as plain, intelligent people use in every-day intercourse.

Our subject is—Human Knowlege, natural and supernatural—ITS CHANNELS AND FOUNDATION.

By human knowledge we mean every thing which man,—not angels,—but man can know about the Universe around him, and about himself. And by the foundation of this knowledge we intend that in man on which all his knowledge must ultimately rest.

vol. xv.—13.

Let it be premised also that, in what follows, we shall speak of man chiefly as an intelligent creature: and yet our subject would be incomplete, neither could the discussion of it be altogether satisfactory, if we did not also, before we closed, bring to view man's great moral relation. To proceed to our purpose:

We ask your attention, then, first to-

- I. The CHANNELS of Knowledge. What are these? They are first—
- 1. The senses. These are commonly called the external senses, the animal senses, or the five senses. Some psychologists have indeed contended that all the senses may by analysis be reduced to one, that of feeling; and others, on the contrary, have proposed to add several more to the generally recognized five-fold division of the senses. We shall not here enter into these nice distinctions; but confine ourselves to the popular understanding of the term senses.

By these senses, then, viz: that of sight, hearing, touch, taste, and smell, we take cognizance of all we can know of the phenomena of matter, or of the external world—that is, all outside of the mind.

Every thing that is pleasing, beautiful, and sublime in prospect, every thing that is agreeable and ravishing in sound; every thing that is soothing or pleasurable in feeling; and every thing calculated to gratify in taste and odor;—or to produce the opposite feelings—all these we receive through the senses.

Furthermore,—all those facts on which rest the Natural Sciences, various and vastly comprehensive as these sciences are; those facts also on which chemistry and the healing art are founded, and those which furnish the basis of astronomy; and the almost numberless facts which go to the building up of natural philosophy generally:—all these facts are made known to us by the senses.

And if there is anything else in man's knowledge or science derived from a material basis, this also must be taken into account.

The almost illimitable field thus spread before the senses, and therefore the vast importance of the senses as channels of knowledge, must, even from this brief and hurried glance, be seen and felt.

It is manifest also that without these senses each one of us would be an isolated being,—ignorant, totally ignorant of all around him, and of all within him too,—a vitalized organism—a merely animated statue of bones and flesh, soon to fall into ruins. It is through the senses man first awakens up to himself and the world about him.

A second channel of knowledge is-

2. The power of intuition.

At the very first glance of certain facts and truths, as presented in the mind, we may instantly arrive at the knowledge of other facts and truths. The faculty by which this attainment is made has been called by a variety of names, as intuition, suggestion, simple suggestion, judgment, common sense, consciousness, etc. The knowledge we thus get does not come to us through the senses, neither is it the deductions of reason. It is discerned by a mere glance of the mind, and is accompanied by as clear a conviction of its truth, as is the information of our senses, or the conclusions of our reason. Men ask no proof of it; it is self-evident.

The knowledge we thus get has been called by a great variety of names, as intuitions, intuitive judgments, intuitive convictions, native convictions, spontaneous convictions, necessary cognitions, necessary truths, primary ideas, fundamental laws of human belief, dictates of common sense, etc. A moment's reflection will show us the importance of this knowledge.

It is evident that all progress in knowledge by a created, intelligent being, like man, implies a beginning, a starting point. This he must assume at the commencement of his career. And it is equally clear also that, if two such beings wish to argue any subject, they must begin somewhere, and that place of beginning must be assumed by both parties,

however far back they may have to go before they find it. From this point, then, assumed and granted, both parties must start, or forever stand still.

In this way we all,—whether as individuals commencing our progress, or as parties about to discuss any matter,—we must have a fixed point of departure. Now, these necessary cognitions, or dictates of common sense, or fundamental laws of human belief, are just the things taken for granted in all such progress.

For example:—in mathematics, things which are equal to the same thing are equal to each other. If equals be added to equals, the wholes will be equal. The whole is greater than any of its parts. The whole is equal to the sum of all its parts. We must see and acknowledge the truth of these and other axioms at the very start, or we can not advance a single step in mathematics.

So also in ethics or moral philosophy: That there is a natural and eternal distinction between right and wrong. That we are moral and responsible beings. These primary truths, to name no more, must be assumed, or the science of morals is impossible to us.

Again: the intuitive judgment brought to bear also upon the state and the acts of the mind itself, furnishes us ultimately with all the fundamental facts or truths of psychology or intellectual philosophy.

And in the physical sciences, too, all our progress in every branch of knowledge which relates to the material world, as natural philosophy, the natural sciences, chemistry, medicine. etc.—in all these we must see and allow at the outset certain great fundamental truths, as, for example, that every effect must have an adequate cause. And again: The uniformity of nature; that is, the laws which have hitherto governed the material world will continue so to do hereafter. If any one deny these and similar truths, he can make no advance whatever in natural philosophy, or in any other department of physical science. Without these intuitions he has neither light to guide him, nor capacity to walk.

In a word, intuitive judgments, or the fundamental laws of human belief, lie at the foundation of all science, and are involved in every step of our progress.

Such, then, is our indebtedness to intuition as a channel of knowledge.

A very interesting and instructive incident, illustrating this subject is related of the celebrated Dr. Beattie, author of "THE MINSTREL," etc. He wished to learn by experiment whether the truth that every effect must have an adequate cause, was a spontaneous conviction of the mind. To ascertain this, he sowed some lettuce seed in his garden in such a way as to make the three letters J. H. B., the initials of his son's name, then a very small child, James Hey Beattie, afterwards a co-professor with his father in the University.

When the seed had sprung up, the Doctor took little James with him to walk in the garden. The child ran hither and thither, attracted by different objects, but soon came quickly back to his father with an expression of wonder in his face, and urged him to come and see something he had found out. The Doctor suffered himself to be led to the spot where the lettuce was growing, and purposely looked upon it with an air of indifference. The child, disappointed and astonished at this, asked his father to tell him how it was so. The Doctor replied, "Did it not come of itself?" Little James dropped his head for a moment in much seeming perplexity, but quickly answered—"No, father! It couldn't come of itself; some body must have put it there."

The experiment was successful. Even a child could see that every effect must have an adequate cause.

But we proceed to another means of knowledge. It is,

3. The reason, or discursive faculty.

We use the term Reason here in its most comprehensive import, to signify that power of mind by which we discover new truths from a comparison of ideas, of whatever length the process may be,—a single step or ten thousand such.

Writers on Psychology, or the Philosophy of the Human

Mind, have analyzed this capacity into two or more element-. ary powers; but it is not needful for us here to make such distinctions. It is sufficient for us to notice the fact that. through this capacity of reason, or the discursive faculty, we arrive at a vast amount of knowledge; and that there is no possibility of setting bounds to our progress in this field. To our reason do we owe all our sciences-intellectual, physical, moral, and mathematical. These come to us simply through this channel. Without the discursive faculty, science would be impossible to us. It is, therefore, one of the principal distinctions between man and the lower animals. He is capable of science; they can never attain to it.

The fourth and last channel of knowledge is-

4. The teaching of others.

There are two things here very remarkable; the first is, that nearly all our knowledge we get in this way; and the second thing to be noted is, that very few seem to be sensible of this their indebtedness.

Let any one but try the experiment with himself; let him take as full and complete a survey as he can of his knowledge, and he will find that by far the larger part of this he has derived from others. They communicated it, he only received it. He has sat at the feet of the living teacher, or studied the volumes of authors, many of whom had gone to their graves long before he was in being.

We will not here point in proof of this to the history of the past; for this, valuable and voluminous as it is, we manifestly get altogether from others. We know nothing of the events of history, and we can know nothing of them of ourselves. These facts have all transpired, and scarcely any thing remains but the record of then for our instruction.

Let any one, however, look at his geography, and see to what a very small compass it would be reduced were he obliged to cast out all he had not observed for himself. Verily, the geography of the most of us would be limited to a very partial knowledge of a few cities, towns, and villages of our own

land, and some of the roads between these, and the narrow tract of country surrounding them.

And how contracted must his—now perhaps wide—sweep of astronomy become by such a process! How few of us—even the most intelligent of us—have observed for ourselves the moons of Jupiter, or seen the great planet Neptune, or counted the tens of thousands of fixed stars and nebulæ scattered through the vast fields of space, which the telescope has brought to view.

And to name no more—to what exceedingly narrow limits would our chemistry, our natural philosophy, and our knowledge of the physical sciences generally be reduced, were every thing to be blotted out of our minds which we had not observed for ourselves. How few of us have ever seen the one tenth, or even the one hundreth part of the facts and experiments on which these sciences rest. But all these important facts and experiments and the vast and precious systems of science built upon them—all these we must give up, if we shut out the teaching of others, and confine ourselves to the limits of our own observation.

Having thus taken a quite general and very rapid survey of man's knowledge, and pointed out the channels through which it all comes to him; we are now prepared, secondly, for the deeply interesting and very important question—

II. On what does all this vast and continually enlarging fabric of human knowledge REST?

We answer faith, simply FAITH. Had we no capacity of trust, no ability of confidence, no power of reliance,—in a word, had we no faith in our senses, our intuitive judgment, our discursive faculty, and the teaching of others; or could our faith in the testimony of these fail, where would all our knowledge be? That vast edifice which the human family has been perseveringly engaged in building up ever since the world began—our natural sciences, our ethics, our mathematics, our astronomy, our natural philosophy—in a word, all our knowledge, intellectual, moral, and physical,—where

would this all be, without faith? It must instantly vanish like the baseless fabric of a dream. Aye, and the very dream itself would speedily disappear. And in thus annihilating all outside of ourselves—the universe about us—we should annihilate ourselves also. And hence, alike, from this, the deepest abyss of Scepticism, and from the cloud capped heights of Transcendentalism, would the insane shout go up, Great is Nothing! Without faith in our faculties, such must be the dreary end of all our endeavors, all our progress, all our aspirations. Without faith there could be no knowledge, no reality to us.

But, thank God, we can not come to this! Here and there indeed, a dreamy metaphysician in his closet, or a trifler with God's truth, or a wilfully wicked, corrupt man may argue himself into intellectual scepticism; but the great mass of mankind have not so destroyed their mental sanity. They have enough yet left of health of mind to trust their senses and to hold fast the dictates of their intuitive judgments, and confidently to rely upon the deductions of their understandings, and to place a reasonable and generous reliance upon the teachings of others. And thus has the world hitherto gone on, by faith, growing in knowledge, and is now advancing with an ever-accelerating speed in all departments of a true and safe science, -continually aspiring towards a glorious consummation. And this onward march can not be arrested. Why? Just because the great mass of men will have faith in themselves; they can not be persuaded out of their senses. And they will ever regard, as they have hitherto regarded, the few who profess such morbid doubts as dishonest men to be abhorred; or they will pity them as the victims of a foolish and ruinous hallucination.

Such, then, is the ultimate foundation in himself of all man's knowledge, natural and supernatural.

But it may here be asked,—have none ever gone further than this? Is there nothing without, on which man may place his foot with as healthful and unfailing a trust as on that inner foundation of which we have just spoken?

But before answering this question, we beg leave to remind you of our statement at the outset, that we would purposely avoid psychological precision of definition and terminology as far as possible. Hence, when we inquired above, whether there was another foundation on which we might rest beside faith in our faculties, we do not wish to be strictly understood. For, in truth, there can be no other basis of human knowledge than this faith—all we know must ultimately rest upon it.

But let it be considered that as we advance in every department of knowledge and true science, each attainment thus made throws back such fresh light upon the foundation as makes its reasonableness and security more and more manifest. Hence, our very attainments seem almost another basis of knowledge, and for all practical purposes, they do serve this end. And, therefore, intelligent, sound minded men, and especially profoundly learned men, are rarely betrayed into scepticism.

But such has hitherto been the state of the world, that a high degree of intelligence has not been universal; and great scholars have always been very rare in comparison with the mass. Hence, men generally have not been able to bring much intellectual culture,—much less great scholarship,—to the aid of their faculties and of faith in these.

But not so in respect to the argument of which we are now about to speak. It is an argument plain and obvious even to the simplest and most unlettered minds; and though perhaps such have rarely thrown it into logical form, they have for the most part always seen and felt its force. It is an argument—be it here also observed—which rests exclusively on man's great moral relation; and the whole tendency of which is to bring that relation most vividly, practically and permanently into contact with all the susceptibilities and powers of man's nature.

We return, then, and repeat the question, Is there nothing without on which man may place his foot with as healthful

and unfailing a trust as on that inner foundation of which we have spoken? We answer, there is; and in as few words as possible will we endeavor to bring plainly to view this other and higher Rock on which it is alike our duty and our privilege to rest.

We are not called upon here to say how it is that the world has become possessed of the deep-seated, indelible conviction that there is a God—a Power above it. Some have ascribed this to the exercise of man's own faculties upon the evidences spread all around him of God's wisdom, power and goodness in his works; others have traced it to an original divine revelation, handed down through successive generations by tradition. However this be, the fact is certain, that no nation or tribe of men, however remote, or deeply sunk in ignorance and barbarism, has yet been found without some ideas of a Divine Being—a Power above them; and their religious observances towards this power constitute their superstition, which they must have where they are without true religion. Indeed, superstition, of one shape or another, is the religion of all ignorant men.\* But passing this.

We who live in Christian countries, and with the Bible in our hands, have clearly revealed to us God's being and character,—the eternal, almighty, infinitely wise, just, good, and holy Creator and Preserver of all things, the righteous Judge and sovereign Ruler of heaven and of earth. And these teachings of revelation we see abundantly confirmed by every day's observation of things within and without us, and by every advance we make in the sciences.

<sup>&</sup>quot;Pass over the earth," said Plutarch, "you may discover cities without walls, without literature, without monarchs, without palaces or wealth, where the theater and the school are not known; but no man ever saw a city without temples and gods, where prayers, and oaths, and oracles and sacrifices were not used for obtaining pardon or averting evil."

Here and there, indeed, a modern traveler or voyager has reported some obscure, savage people who have no idea of a God; but, subsequently, larger and more careful examination has always corrected this report,—shown it to be hasty and unfounded. So that the remark of the philosophic biographer is found to be as true now, as it was when he penned it nearly two thousand years ago—"No man ever saw a city without temples and gods," etc.

Now, with this conviction of a God pervading our every faculty, and going down into the deepest recesses of our bosoms, and accompanying us in all our progress, we can, and we daily do, frame an argument for the certainty of human knowledge-an argument short indeed, and yet so clear, so overwhelming in its demonstration, that, once we have seen it, we can not get rid of it, till we deny every thing that is sensible, and good and noble in our own nature. The argument is this:

God gave me not only my being, but the very constitution of my being-all my faculties, intellectual and moral; and I must believe these, -it is in the highest degree reasonable and right to believe them. If I do not, what follows? what follows? I make my nature a lie, and God the author of it!

But this is a conclusion from which every religious, nay, every reasonable mind instantly revolts. All the light that is in us, and all our moral instincts cry out, God is a God of truth, and can not lie! His throne is built upon truth. All his laws uphold truth. His government protects and encourages truth, and pours contempt upon falsehood, and holds out never-ending woe to all liars. The whole course of his providence also tends to establish the lip of truth and bring to naught the counsels of liars. Look where I will, truth shines out in all God's works and ways. To admit, therefore, for a single moment that my nature is a lie, and God the author of it, is either desperate madness, or a monstrous sin not only against God, but against myself and the whole constitution of things!

We have, then, God's guaranty for the certainty of human knowledge. So sure as the Lord reigneth, truth is eternal, and we do well to rely upon the faculties He has given us. These faculties are his witnesses; and, if properly questioned, can never deceive us. Hence, their testimony has been uniformly received by the sensible and the good everywhere and at all times; and in this faith have they not found great reward?

Here and there, indeed, have been seen a few dreamy closet speculators, and a few proud, disappointed spirits. and a few selfish, designing men, and a few men of corrupt ways, and a few desperately bad men, who have professed to doubt every thing, and poured contempt over all human knowledge. But does not the daily conduct of such men always show them to be "vain disputers,"-insincere, hypocritical, sinners not only against the common sense of their fellow-men and the truth of God, but against their own convictions also? For have they not ever lived as other men do?-kept out of danger?taken care of their own interests? -- sought out and enjoyed the good things of life? and made loud complaints, too, when their rights were invaded? In a word, have they not lived, and spoken and acted just as all those do who hold fast to the certainty of knowledge and the reality of things? the daily lives of such men proclaim the falsehood of their professed scepticism. What right, therefore, have they to complain when the world either pities them for their weakness, or abhors them for their wickedness?

Another reason, perhaps, why intellectual scepticism has never prevailed to any considerable extent in the world is, that it is necessarily suicidal. By a law of its nature, it no sooner begins to live than it dies—self-destroyed. Does not he who professes to be a sceptic, by that very profession put a dagger in the heart of his scepticism? How can a man know himself to be a sceptic? To say that he knows that he is such, is to proclaim himself not a sceptic. The real sceptic knows nothing; he doubts every thing; and therefore, to make any positive assertion about the matter is obviously to misrepresent himself. Hence, no one really believes him, or can believe him. Is it wonderful, therefore, that so few care to stand in such a position?

We trust, then, that it has now been made to appear how this universal conviction of a God—all-powerful, just, wise, and good,—how, we say, this conviction operates to give wonderful certitude to faith in our faculties. It throws down an

illumination so broad, deep, and vivid upon the true nature of man and the foundation of all his knowledge, that even the most simple-minded and the least book-learned can not be insensible to its power. Its influence upon every healthy mind is irresistible, overwhelming. In the light of God's being and character we see, we feel that we have rock to rest upon; that man's knowledge, all true science will endure forever, and that life is no dream, but a substantial, solemn reality.

A few words of counsel, and we close this necessarily very imperfect exhibition of a most important subject. First,

- 1. Always faithfully employ your faculties; and when you have in this way arrived at their testimony, treasure it up for future use. You can know nothing in any other way; you can perform well your part in life in no other way. He who does his duty here is gathering the elements of wisdom, usefulness, prosperity, respectability, honor. It is impossible for that man to fail. Again-
- 2. Our subject, clearly understood, throws light upon many errors and dangerous mistakes. Take a single one, as an example. How often do we hear unthinking men complain that faith should be the ground of religion, and that only they who come up to it and stand there can be saved. "All this," they say, "is unreasonable, purely arbitrary; that if the evidence for a matter is sufficient, a man can not but believe it; and, on the contrary, if he does not see the evidence to be sufficient, he can not believe it; and must, therefore, perish without any fault on his part."

But need we say that this is altogether a shallow and false view of the subject? The truths of religion, like all other truths, appeal to our faculties as reasonablebeings, and we are called upon to attend to these truths, and then rest upon the testimony of our faculties. In other words, we are to exercise faith here just as we do in every other department of knowledge.

But as men can shut their eyes against natural light, and

so remain insensible to all the beauty and glory of God's works spread out before them, may they not also close up their minds against truth, and turn away their ears from its lessons? May they not, and alas! do not multitudes here altogether neglect the means of instruction and conviction? We have this fearful power; we may choose darkness rather than light. It is a part of our moral probation.

Faith is thus, to a great extent, a voluntary exercise, and under our control; and therefore, just so far as we refuse to employ it, do we sin against our nature, as well as God's word, and so wilfully walk in the dark, and bring down upon ourselves a just condemnation for our culpable ignorance. Only let these complainers give but a moiety of that attention to the truths of religion and the interests of their souls that they do to the things of this world, and every man of them would speedily become "wise unto salvation through faith which is in Jesus Christ."

It is, then, no peculiarity of religious truth that it demands faith, and must be received by faith. All man's knowledge, natural and supernatural—human and divine,—rests, and must forever rest upon faith. He who refuses to exercise confidence in the constitution God has given him—those faculties which God has entrusted to him, and commanded him to use and rely upon,—that man must remain a fool all his days, and perish in his folly.

Here we are prepared, intelligently, to render the tribute of our admiration to one of the greatest minds of antiquity—we mean Augustine, Bishop of Hippo. The schools of philosophy in his day had laid down the principle as of unquestionable truth, "First knowledge, then faith." "No," replied the great African Bishop,—looking far deeper into the philosophy of human nature than any of his time, and anticipating the profounder researches of coming ages—"No," he replied, "First faith, then knowledge."\* Finally—

<sup>\*</sup>Aurelius Augustinus was born at Tagaste, a town in Numidia, a Roman province in the north of Africa, Nov. 13, 354 A. D., and died in Hippo

3. Be sure to bring your capacities of intelligence and improvement faithfully to bear upon your highest interests.

"Seek first the kingdom of God and the righteousness thereof." This is not only a divine requisition, but one of the clearest dictates of a sound understanding. Never be so absorbed in the things of this life as to forget that you have another and an endless life before you. And the same understanding and the same integrity, prudence and industry that will enable you to succeed in the world, are sufficient, if properly employed, under God's blessing, to secure to you eternal life.

Do not be the victims of the false notion that the blessings of true religion, unlike temporal benefits, come to us in such a mysterious way as supersedes the necessity of human exertion. This is not the teaching of the Bible. It is a miserable delusion of a deceived, depraved heart; and if not shaken off, must prove fatal to the soul. We may never expect any benefit or blessing without seeking for it. This is the great law written not only in God's word, but on the whole constitution of things. It is only "the hand of the diligent that maketh rich" in this world; and so also we must "strive to enter into the strait gate and the narrow way which leadeth to life" eternal. Christianity is one of the most reasonable things in the world. It comes to us just as every other branch of true knowledge does, and as every other valuable attainment does. Its requirements are-"Prove all things; hold fast that which is good." "Press towards the mark for the prize of your high calling." "Be diligent in business, fervent in spirit, serving the Lord."

A simple, but wonderful way is indeed opened up in the

profundity were blended in their highest degree."

Before the conversion of Augustine, he was deeply imbued with the Manichean Philosophy; and it is against this erroneous system he afterwards most largely and efficiently employed his great principle—" Fides præcedit intellectum."—[NEANDER, VOL. II., p. 359, Prof. Torrey's Ed.]

Regius, in the same province, Aug. 28th, 430. "He was," says Guericke, the historian, "a man of deep and powerful nature, not the most learned, yet the greatest of the Fathers, and in whose energetic mind acuteness and

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gospel, by which we may attain, through grace, to the pardon of all our sins, and the regeneration of our whole nature,body, soul, and spirit,—thus preparing us for a new, holy, useful, blessed life here and the inconceivably higher holiness. usefulness, and blessedness of heaven. But for all these precious and eternal mercies God hath said-" I will be inquired of to do them." And knowing our weakness, and our proneness to unbelief and sin, He has given us for our encouragement promises innumerable-plain, precious promises. Take this one for example-" Ask, and it shall be given you; seek, and ye shall find; knock, and it shall be opened unto you: for every one that asketh, receiveth; and he that seeketh, findeth; and to him that knocketh, it shall be opened. Or what man is there of you, of whom if his son ask bread, will he give him a stone? Or if he ask a fish, will he give him a serpent? If ye then, being evil, know how to give good gifts unto your children, how much more shall your Father who is in heaven give good things to them that ask him?" How clear, full and perfectly reasonable is all this! It is simply—He who would attain to God's favor and eternal life, must sincerely desire it, and earnestly seek it; and none ever yet thus faithfully sought, and failed to obtain.

Yes, we have the assurance of eternal truth, the word of God, who can not lie, to rest upon-" Him that cometh unto

me. I will in no wise cast out."

And has Heaven, in love unspeakable, shed down light in such rich abundance upon our path? Olet us, then, open all the channels of our souls to receive it! Let us, with faith, quickened and invigorated by the Spirit of God, cordially welcome this light! Only truth, thus admitted and embraced, has power to raise us up to a new and divine life, -power to bring us forth from a dark, sin enslaved world into the holy liberty of God's dear children-his peculiar people, zealous of good works. And, being thus sanctified and justified through faith in the Lord Jesus and by the Spirit of our God, our path will shine more and more, till swallowed up and lost in the brightness of the perfect day.

## PLATES OVER FANGS.

BY W. H. ATKINSON.

THE great sin of surgeons, especially young surgeons, is, indiscriminate slaughter of diseased or wounded parts, because they can more readily cut and remove them out of sight than, by extraordinary skill and patience, preserve them for use.

Dentists being in the aggregate more, much more ignorant of the mutual relations subsisting between parts, often imitate the more reckless surgeons, in removing organs they have neither the knowledge nor courage to treat thoroughly and restore to usefulness, and so, with a "coup de main," forever put it out of the power of even superior skill and patience to put them to lasting shame by saving these; which could readily be done, had it not been for their reckless display of dexterity in mutilating.

The advantage, not to say necessity for the presence of fangs, to sustain, by lateral support, the alveolar arch, has not been, and is not at this present, properly considered by but the very few. Authority, right or wrong, overpowers all the youthful portion of timid or honest operators, and thus, for the most part, cuts off even the necessary examination of the grounds upon which it is based, thus precluding them from exercising their own unbiassed judgment, by this prescribing beforehand what is doable, and what they deem undoable, because they had not the moral courage or earnestness, in doing the very best possible for each one; to fully examine each case separately, irrespective of what might have been said and done by our predecessors.

The next most powerful obstruction in the way, after false authority, is the persistent determination that manifests itself in ninety per cent. of those operating, to do it in the easiest, not best manner they can contrive.

Occlusion of the dentures has been but little studied or understood; hence, successful adaptation of these, in perfect articulation, has been more a matter of accident than result

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of regularly taken steps towards the accomplishment of the object in view. Had this attracted the sharp attention of the sharp dentists, greater advancement in understanding the distribution of masticating forces would have been attained.

All force, acting upon receptive or passive bodies, is distributed in radiating lines from the points of contact where it is propagated, and hence, are best displayed in the contact of solids first, semi-solids next, and then the fleshy and elastic soft tissues. So that the concussions of even the most vigorous masticating, when sound teeth are well and truly set in the jaws, are scarcely felt enough to call attention, in communating the hardest foods, while it becomes labor to thoroughly masticate the softer and more tender foods, with the best artificial dentures, set upon the gums, after the natural fangs, the normal distributors of this force, have been removed, for the sake of making the so called "perfection of artificial dentures."

Nature's own perfect work is always to be chosen first, and the next choice would be the nearest approximation to this.

The question as to what comes nearest up to this standard will the more fully appear upon the statement in some detail of what constitutes perfection of the natural dentures.

Size—to just fill the arch, without crowding, or leaving spaces between, into which food can wedge. Strength—to withstand the necessary force. And adjustment—to secure the most perfect adaptation of the articular faces of the various teeth, to fulfill, in the incisors, cutting; in canines, holding and tearing; and in bicuspids and molars, of finely dividing and grinding, to favor perfect insalivation. Next is form and regularity of the arrangement of the teeth, to form the terminus of the vocal tube, simulating an abruptly terminated, flattened cone, with its repressed apex gently and regularly curved downward, and finished at the edges of the incisive teeth, producing the most admirable facilities for finishing, to completeness, the modifications of voice, denominated articularicals.

tion, setting free the distinct sounds we interpret into sense by common consent.

In cases where the alveolar processes are absorbed, or badly diseased, it will be necessary to extract fangs, or teeth, to insure the best results. But in all cases, where the processes are perfect and strong, up to the margin, and contain healthy fangs, the latter had better be cut down to a proper level (and have their canals obliterated by careful and nice filling), upon which to set the artificial substitute on a sufficient base.

If deposition of cement, in the form of exostosis, should project these, in a degree, from their sockets, all that is required is to trim them to the proper level, to secure the fit of the base, and the requisite stimulus to healthy action in the periosteal connections.

As long as the fangs remain in a healthy condition, the insertion of muscle is not changed; but as soon as the fangs are removed, and complete absorption is effected, the points of insertion become in some degree changed, the lips thinned and contracted, simulating great age, even in young persons. Perfect restoration of this condition is out of our power, by any known means. I say this, in full view of the history of "plumpers" and projecting methods, so successfully resorted to, to restore the fullness of face lost in every case where indiscriminate extraction has prevailed. The first case of perfect restoration has yet to be presented. Pause, then, before you decide to mutilate!

If you have not the ability to decide satisfactorily upon saving or extracting, for your own after peace and the honor of the profession, take advice from the competent, or dismiss the applicant, with the injunction to seek further light, and obey the dictates of reason and humanity.

Among dentists, the neglecting to remove fangs that ought to be promptly extracted, is not so frequent as the removing of fangs and whole teeth that ought not to be taken out. Where one commits the first sin, ten unblushingly exult in and boast of doing the latter, in their ignorance, supposing that they set themselves at the head of the profession, by the exercise of their "thorough skill" in "clearing the mouth" for a beautiful (?) set of artificial SUBSTITUTES.

Teeth that have been without antagonists for a number of years, in otherwise healthy mouths, will be apt to be exostosed, or to have their fangs shortened by absorption, to a considerable extent. The best means of diagnosis for such cases, doubtless, is great familiarity with them; but some of the more pathognomic signs are, elevation above the normal plane of the grinding faces of the teeth yet enjoying the presence of their opposites; and a certain kind of "looseness," or mobility, devoid of evidence of periostitis. I never have seen both these symptoms present with entire alveolar processes, unless exostosis and absorption, one or both, were present. With few exceptions, such teeth had better be removed. Study hard and long; religiously diagnose every case; then follow your first "instinctive feeling," and, in the majority of cases, you are SAFE.

CLEVELAND, Dec. 14, 1860.

## WHO ARE DENTISTS?

BY W. A. PEASE.

In a preliminary article a few lines were devoted to show that the first idea the community, in general, had of a dentist was, that he was a man who extracted teeth and made artificial ones—that he was a mechanic. This idea, which was true at the time it was formed, and is still true and applicable to many who call themselves dentists, does very great injustice to dentists,—men who have devoted their time and energies to the preservation of the natural teeth; and it, consequently, works an injury to them and a still greater injury to the community, for people are thereby often grossly deceived and lulled into neglect or a seeming unconsciousness

of the decay going on in their own or their children's teeth; thinking (if they think at all) that dentists are essentially mechanics, and that they have but little control over the diseases of the teeth. It will be the aim of these papers to show the groundlessness of this opinion—to show that dentists can preserve the natural teeth, and that, consequently, the worst possible duty that can be required of them is to ask them to render a less valuable service, and make artificial ones; that where people have done their whole duty to themselves, their children and to dentists, artificial teeth should be as seldom required as artificial legs or glass eyes.

Commencing, then, in the order of arrangement as indicated by popular belief, this article will be devoted to the extraction of the teeth, to show where, from neglect or other cause, a tooth has become worthless, the necessity of the operation, independent of any pain the tooth may give, and that a judicious extraction of seeming valuable teeth is often an important part of conservative dentistry.

The causes that now induce dentists to extract the teeth are different from what they were a few years since. they were extracted because they ached, or because there was a gum-boil at the root of them; and they were seldom extracted for other reasons. Now these causes, of themselves, are not considered sufficient; there must be other and paramount reasons in addition to them to induce a dentist to extract a tooth; or, if he does extract it, it is because the patient is either too poor, or he refuses to pay the fee necessary for treating and saving the tooth; in which case, it is much better for the patient that the tooth should be removed than that it remain in the mouth. The effect of carious teeth on the mouth, by affording a lodgment for food to undergo fermentation, is to vitiate the secretions, render them acrid and acid, which act as a solvent of other teeth. Cases are seldom seen where caries has appeared between the teeth and attacked one tooth but that, immediately opposite, on the adjoining tooth, there is found more or less of a cavity. If then, under

these circumstances, the tooth having the larger cavity is extracted, the decay in the remaining tooth often becomes stationary or dormant, or progresses more slowly than before. Nor are the deleterious influences of roots or decayed teeth confined to the destructive effects known to be exerted upon the healthy teeth. These are of minor importance, compared to the long list of nervous or debilitating diseases; dyspepsia, or loss of tone of the stomach, and irritability, if not disease of the lungs, for which the sufferer sometimes undergoes a long course of general or constitutional treatment, with little benefit, simply because the local cause is ignored or overlooked.

After the destruction or the spontaneous death of the nerve, if it is not removed from the tooth, or the tooth is not treated to place it in a healthy condition, there are few systems sufficiently healthy or robust to resist the irritability arising from that dead nerve, and other causes, not readily explained to the general reader. The result is, the tooth becomes sore; it is longer than the others; it is painful, and there is a swollen face, or what is popularly called a gum-After the pus has discharged, which is either through the gum, or it insensibly escapes through the canal in the root, causing an unpleasant taste in the mouth, the disease becomes chronic, that is, lasting, and there is a constant oozing or discharge of pus into the mouth, which is insensible, and consequently swallowed, to the injury of the stomach and to vitiate the blood. Hence it is very bad policy to destroy the nerve in a tooth, unless the tooth is to be immediately plugged, or else, for some temporary purpose, such as in sickness, with a view of having it extracted at the first favorable opportunity before ulceration takes place. Independent of these considerations, it is a well known fact that the depressing effect of a small discharge of pus is equivalent to the loss of a considerable quantity of blood; and when this discharge is going on silently, but constantly, for days and years in the mouths of thousands of people, especially of females, is it

surprising that the community is full of nervous, irritable, emaciated people; constantly complaining, having no particular disease or pain beyond a general debility, or an occasional neuralgic twinge; who are commiserated by their friends and called fidgety by the doctors? These people are in effect daily bled.

Thanks to dentists, the effects of the diseases of the teeth on the system are now beginning to be understood; and a long list of ailments that have generally been intractable are now brought to a summary end, either by curing the diseased tooth or removing it from the mouth.

Thus, having shown some of the reasons why certain diseased teeth and all roots should be removed from the mouth, I shall now proceed to show why other, and at times healthy or seemingly valuable teeth should be extracted. Paradoxical as it may seem, the extraction of certain teeth is, occasionally, an important part of conservative dentistry; and judiciously exercised, it exerts as controlling an influence on the health of the mouth, the beauty and symmetry of the features and the preservation of the remaining teeth, as any one thing at the disposal of the dentist. While it is, undoubtedly, true that thousands of teeth have been and are still daily extracted, unnecessarily and for no adequate cause, it is also true that teeth are occasionally filled that it would have been much better for the patient to have extracted. As the chief object of dentistry is to preserve the teeth, dentists must keep steadily before their eyes, in all operations, the means for the attainment of that end. They should never be diverted from this duty by the position or solicitation of the patient, and however gratifying it may be to them, having an able and liberal patron, to show their control over disease and their ability to form and build up a solid and durable plug, if, from the nature of the case, the tooth may soon break away from the plug, the operation then becomes a glittering professional curiosity, unworthy the expenditure of the skill and the time it has consumed of the patient and operator. It is not to be understood from this, that teeth are not to be filled, when, from the nature of the case, the tooth must be ephemeral and transitory; but that such operations should not be performed when the extraction of the tooth would conduce, materially, to the health and permanence of the remaining teeth. Thus, a tooth that it would be proper and the duty of a dentist to plug for a patient of forty years of age, it might be his duty to extract, and it would verge on mal-practice to plug it, for a person of sixteen. In the one case, the condition of the system is stationary; the person has no more teeth to cut; his osseous system has become consolidated; the teeth are fixed and immovable, and they have attained their maximum density; they are less susceptible of disease, and when attacked by caries, it progresses more slowly than in early life, and consequently, a plug is then more efficient; while, if the tooth were extracted, nothing could be gained by a re-arrangement of the teeth, and injury might follow. On the contrary, if the tooth was plugged for a person of sixteen, the plug, as a plug, might be a success, but the tooth, being friable, might crumble away, and the root would have to be extracted at an age when the person would derive little benefit from the operation. At the age of sixteen, or even twenty, the system is still plastic; the natural arrangement of the teeth may be easily changed; the wisdom teeth are yet to appear, or are about cutting, and if a tooth is extracted, the teeth back of it will come forward and nearly fill the place, so that the teeth will stand a little asunder, and can be more easily cleaned, and the wisdom teeth, having abundance of room, are healthy and better developed. All of these advantages would be measurably lost if the tooth was plugged, and it afterwards broke away and had to be extracted at twenty-Thus it will be seen that the operations of the dentist are relative and conditional, dependent upon a great variety of circumstances, and his success will be measured by his ability to discover these conditions, interpret their significance, and adapt his treatment to the peculiarities of the individual case.

## ALVEOLAR ABSCESS-TREATMENT AND CURE.

BY W. H. SHADOAN.

The successful treatment of an alveolar abscess has, by many, been considered one of the impossible things; but the many experiments by scientific Dentists show that to be erroneous. I do not say that all abscesses can be cured, but I do say that many, if properly treated, can; and when I make this assertion, I do so from personal experience in a practice of about five years, which gives me the satisfaction of knowing to a certainty that alveolar abscess may be cured. How was it a few years ago with the teeth when a gum boil was occasioned by a tooth? The first thing was to say, "Oh, that tooth can't be cured, it's gone too far;" if you would have saved the tooth you should have come before the "gum boil" made its appearance, and had the tooth plugged.

Well, now, that all of our patients do not know what to do, or what they can do; we must take them as we find them, and if possible, save them. I remember that in a conversation with a Dr. D., of Kentucky, a few months ago, the subject of diseased nerves of the teeth and alveolar abscesses came up, and he emphatically said, that the successful treatment of either was a humbug, and that he did not believe it could be done. He said that as a proof of the assertion, that one of Dr. Watt's brag jobs of "fang filling" came to him a short time before, and that he undertook to treat it and had failed, and that he never did have success in any case, however simple. Now in fang filling, when there is alveolar abscesswe don't pretend to say we can save all cases, but we do most positively say that we can cure most cases if they are presented before the disease runs too long. For a physician to say that he can cure all his patients, under any and all circumstances, is the best proof that he is a quack and wishes to deceive.

The subject of treating alveolar abscess is not the subject of so much thought and consideration in our Dental Associa-

tions as it should be, nor is it written on so much as other subjects, perhaps of less interest than it: therefore I would suggest that some of our professional brethren should devote a portion of their time to that of the different diseases of the processes, and say less about Dental Ethics, etc.; I have no fault to find with their writings, but would like to see other subjects properly attended to.

As to the causes of alveolar abscess, I presume the profession is familiar, it being produced in most cases by acute inflammation of the Dental periosteum; sometimes caused by dead teeth, or the suppuration of the lining membrane of the pulp, or from an accumulation of purulent matter at the extremity of the tooth, the egress of which has been prevented by the natural opening being closed up. Or it may be caused by mechanical violence or some other irritating cause.

We have in a very brief manner glanced at the causes, etc., of the disease. I will now notice some of the results, with the most popular treatment, and more especially that which I adopt in my own practice, giving at the same time a few cases, showing the result. I shall give the most aggravated cases in my practice, so that you may see the success.

The final result of alveolar abscess is so well known at this day, that the time will be best spent by passing to the treatment at once. My practice was, when I first began the treatment of such cases, to use nitrate silver and creosote principally, sometimes adding a little tannin and sulphate copper. The treatment which I now adopt is chloride zinc, as a disinfectant, after which I use creosote, sometimes tinct. myrrh, sulphate copper, sulphate zinc, nitrate silver, and sugar of lead, &c., &c. My principal remedy is the first two.

I will now give a few cases to show the success I met with. CASE 1. J. H. D. B., æt. 36.—Sanguine bilious, of sedentary habit, called to have some teeth filled, one of which had as he said, a "gum boil on it." After filling all but the one to be treated, I examined it and found that the cavity of

decay did not extend to the pulp cavity; I filled the cavity and treated the tooth externally—the tooth in question was the right superior first molar. Treatment: drilled a hole into the apex of the labial anterior fang from which the pus proceeded. Treated with nitrate silver and creosote, May 17, 1858.

May 19. Treated as before, patient doing well.

May 21. Patient doing very well—abscess nearly well. Directed him to use some slight purgative. In a few days he called again, perfectly cured.

Case 2. April 8, 1859. S. V. C., æt. 18.—Case of disease of the fang of the left lateral incisor, which had first the appearance of periostisis, which resulted in an abscess; formed an opening through the canal and treated as in Case 1, adding Tefft's Anæsthetic. Cured in six days.

CASE 3. June 18, 1860. C. C. R.—Abscess of the anterior fang of the first right inferior molar. The pus escaped at the margin of the gum about the center of the tooth. Dr. -, of Bloomington, Indiana, had filled the tooth with amalgam four years ago, when it caused so much trouble that the filling was taken out. After that another celebrated D. D. S. of the said B., tried his hand on the tooth, and to better the case he filled with tin. The tooth came to me on June 18th, I drilled down into the cavity as far as I could, (the cavity taking a turn which prevented the successful drilling of it). I treated for several days with chloride of zinc and creosote alternately. I could cure the tooth and abscess as far as I could reach, but could not reach the seat of the disease. If the patient had not left, I should have continued the treatment, endeavoring to reach the seat, if possible. This I consider a failure for want of time.

CASE 4. Mrs. R. G. called January 16, 1861.—Abscess formed at apex of fangs of first superior molar, right side—tooth filled with tin ten years ago. Removed filling, and drilled through into pulp cavity, some pus discharged, then drilled through the fangs into process, found the pus in

quite a quantity. Syringed the cavity with warm water, then with a solution of chloride of zinc, and saturated small pledget of cotton with creosote, stopped up the pulp cavity and ordered a cathartic.

January 17. Patient called, doing reasonably well, soreness partially relieved, bowels in a good condition.

January 18, 9 A. M. Patient doing well, rested easy since 3 A. M., soreness all out of the tooth, the discharge ceased.

January 19, 9 A. M. Syringed tooth with warm water, treated with zinc and creosote as before. From all indications the cure is effected, there being no soreness or discharge.

January 21, 9 A. M. Removed the cotton and found the tooth well; there is no soreness or any sign of disease.

January 23, 9 A. M. Cleaned tooth as well as I could, then saturated a small pledget of cotton for each fang, and placed them in the bottom of cavity, and filled fangs with gold.

January 31, 9 A. M. Patient called that I might know how case is doing; all well, no trouble whatever.

February 6. Tooth still doing well, and since then has been no trouble; it is presumable there will be no return. Filled crown cavity with J. B. Dunlevy's gold foil.

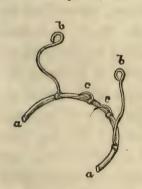
February 13. Patient called that I might know how case is doing. A little soreness once for an hour or so, on the 10th. No indications of a recurrence since.

March 7. Case 4, doing well, patient well pleased with the success. Thinks the price of such a job rather high for one tooth, but don't complain.

## A NEW NAPKIN HOLDER.

BY WM. A. FEASE.

A LITTLE thing, like a napkin holder, that is convenient and easily adjusted, is often of great service to a dentist. I have many times thanked Dr. Hawes for his, and wondered how I got along before without it. The one that I now offer to the profession I have found very convenient; it is simple, easily adjusted, and not expensive; any dentist can make it, although it will generally be found cheapest to buy it, or at least the material of which it is made, at a dental depot. In connection with Dr. Hawes', it gives a dentist the use of both hands, and such a control of the secretions of the mouth as to enable him to make much better fillings. Dr. Hawes' controls the ducts of Wharton, while this is equally efficient in controlling the secretions of those of Steno; besides, it can be so adjusted, when desirable, as to press the lips and cheeks



away from the teeth. Another advantage it possesses consists in a flexible and an adjustable arm (b), that can be slipped on at pleasure, which extends up to the duct of Steno, and holds a small napkin steadily against it. Other arms can easily be added to it to meet any emergency or to suit the taste of the operator, altho' I think these are all that will generally

be found desirable. Its principal advantage consists in holding a napkin so as to prevent flooding the lower teeth with the secretion of the parotid gland. When used in connection with Dr. Hawes', this should be placed in position first, then his should be adjusted and secured, after which the tooth can be plugged at leisure. A glance at the diagram will show how it is applied—a a represent the body of the instrument; b are sliding arms that can be moved to any desirable position, and then the sharp and thin points, c c, can be slipped

in between the teeth, which is all that is necessary. When the arm, b, is used, a small napkin can be wound around the end, which is bent for that purpose.

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## FORMATION OF LOCAL SOCIETIES.

At the meeting of the American Dental Association, held at Washington, D. C., July, 1860, the undersigned were appointed a committee to confer with dental practitioners throughout the Union, with a view to the formation of local societies.

In the discharge of this duty, the most feasible plan that suggests itself to us for laying the matter before the profession is to take advantage of the facilities afforded by the dental journals.

We would respectfully suggest it to be a self-evident fact, recognized by every reflecting mind, that innumerable advantages must accrue to the individual members, as well as to the profession at large, by associated effort. Nothing is better calculated to break down local jealousies; to establish in their place agreeable and fraternal relations; to foster a desire for individual improvement; and beget that esprit decorps, which, wherever it exists, has a tendency to elevate the character and standing of any profession. Taking this broad view of the matter, it is deeply to be regretted that our profession should not have had its local societies established long since in every State and town of any size in the Union.

It is, however, gratifying to observe (and we take pleasure in recording the fact) that within the last year and a half a number of local associations have been formed, and we have reason to believe that the movement in favor of a national delegated association has had much to do with the organization of these societies. We trust their example will be followed by the profession in other sections of the country.

Having been appointed merely to confer with the profes-

sion on this subject, and as we have directed attention briefly to the advantages of associations, we do not feel it necessary to offer any farther suggestions. Trusting that the profession will feel the importance of acting promptly in this matter, we shall be happy to afford any information and assistance in our power that may be desired.

J. W. VAN OSTEN, Philadelphia, W. W. Allport, Chicago, Ill., W. Muir Rodgers, Shelbyville, Ky.,

# Proceedings of Societies.

## SEVENTEENTH ANNUAL MEETING OF THE MISSIS-SIPPI VALLEY ASSOCIATION.

#### DISCUSSIONS.

Dr. Atkinson read a paper entitled "Plates over Fangs;" and remarks being called for,

Dr. TAYLOR said that the practice must be varied to suit the cases. When some of the fangs were diseased, and some healthy and firm, he would generally extract all.

Dr. ATKINSON responded that, if they were alternately healthy and diseased, he, too, would extract all.

Dr. Watt said the constitution of the patient must be taken into account—his physiology and pathology must both be carefully considered. In some constitutions, even when the mouth is in a comparatively healthy state, the roots can not be kept healthy, after the loss of the pulps. He referred to cases to show that, when the vital powers are low, plates over fangs will seldom prove satisfactory.

Dr. TAFT remarked that the paper gives the prominent arguments for the retention of the fangs. The features are

much better preserved, where they can be retained. The soft parts will change when they are removed. If there were but one or two fangs in the arch, and the force in mastication did not bear on them, he would remove them, even if healthy, as otherwise, there would likely be sufficient shrinkage around them to cause the plate to rock. If there were many in the arch, and they were so healthy that the pressure of mastication could be distributed evenly over them, he would leave them in. And, in such cases, perfect adaptation of the plate is very important. The margin of the stump should not be left sharp, or it would irritate the overlapping portion of the gum; and the plate should be adapted so as to rest firmly on the stump.

Dr. RICHARDSON inquired how it is that there is greater depression just below the alæ of the nose than elsewhere. He suggested that we may be mistaken in this matter. Was it not possible that the greater shrinkage here is only relative? The shortness of artificial gums rendered it impracticable to restore the features at this point; and the lip might be made too prominent below, while above, it might not

appear sufficiently so.

## REGULAR DISCUSSIONS.

#### PROFESSIONAL ETHICS.

Dr. RICHARDSON remarked that it was common for one dentist to give his opinion of an operation performed by another, by request, or otherwise. He thought it was sometimes proper to give such opinion; but great caution should be exercised. He would confess himself quite sensitive in this respect. He often had to fill teeth, and, doubtless others had, when not in proper condition, or, when the patient was not in proper condition to make perfect operations. He gave in illustration the case of a little boy, a relative, who was exceedingly nervous, and as he could not control him, he had to fill under water, and the filling le regarded as imperfect—thought it would not save the tooth

beyond two or three years. He did the best he could under the circumstances, and would refill as soon as he could control the patient. Now, if this patient should pass into other hands, this filling might be criticised, without a knowledge of the circumstances, and his operations might be condemned on account of it. It was not possible to pronounce sentence in such cases without doing injustice.

Dr M'CULLUM said that nothing gave him so much satisfaction as to see, and to have the opportunity to speak well of another's operations. Even when work was defective, the difficulty was often the result of a slight oversight. The profession, he said, should cultivate a spirit of sociality. For his own part, he preferred the society of dentists to that of other men.

Dr. Foote said that the first consideration is to be honest. If he saw work badly—dishonestly done, he felt it to be his duty to denounce it. He recently saw an amalgam filling with a gold clasp lying against it. The patient had suffered in consequence, for years, with nervousness—had a horror of wearing the plate,—had called on the operator again, but instead of removing the cause, he merely lanced the gums. In this case the patient's health had been impaired; and he could not help but express his disapprobation. On the other hand, he had recently seen a very good, finely-finished gold filling in the mouth of a child, which was brought to him on account of a little new decay near the filling. He took great pleasure in commending the filling, and in informing the mother that the present decay was not on account of any defect in work of the former operator.

Dr. M'CLELLAND said it was a common thing for us to see the operations of other dentists; and we should never express our feelings or opinions prematurely. We often had to remove the fillings of others, on account of toothache or other causes; and we should be acquainted with, and consider all the history of the case, before giving an opinion. And to avoid the unjust criticisms of other operators, we

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should be always honest and candid when we do the work. When the circumstances were not such as would allow him to do such filling as he would like, he was in the habit of telling his patients so—tell them that the filling is temporary—will need renewing, but that it is the best you can do under the circumstances. In a general way, those who do the poorest work, he said, were the loudest in condemnation of that done by others. He stated, in conclusion, that we have among us far too much professional jealousy.

Dr. ATKINSON said that a man who is a man needs no instruction in regard to these matters; but professional courtesy is not exercised as it should be, even among clergymen; and the same is true in regard to the professions of law and medicine; and it is, therefore, not to be wondered at that our profession—a mere boy—should prove deficient. He would suppose a case for illustration—a case of frequent occurrence, too, -in which a patient calls who has had teeth filled by another operator, and the work warranted-which was the first mistake in the matter-but the work has failed, and though repeatedly refilled, is still a failure—it would still be our duty to advise the patient, as a general rule, to return and give the operator a chance to make good his work; but if the patient is unwilling to trust him farther with the case, and if you know he is incompetent, it is your duty to do the best you can for the case; and it would be much less embarrassing if you did not know who had made the failure. If the patient has met his obligations to the former operator, we are at full liberty under such circumstances, to operate for him.

Jealousy is the offspring of ignorance, and is the result of an undue desire on the part of its subject, to pass for more than he is worth.

STRUCTURE AND NUTRITION OF DENTAL TISSUES.

Dr. ATKINSON remarked that nutrition is always extravascular, and is the same in dentine as in other tissues. The

nutritive material transudes from the vessels through the pulp-membrane. He did not agree with Tomes in regard to the passage of nerve fibrils through this membrane into the dentine. In cases of persons dying by violence, where the circulation was very vigorous, coagulable lymph might be formed in the tubules, and Mr. Tomes may have been thus deceived. Nerves, he said, do not terminate in sharp points, but in loops, or by passing into other nerves. No holes are discovered in the pulp-membrane, by examination with the microscope, and he inferred from that, that no vessels pass through it to the dentine. The circulation through dentine he regarded as similar to that of the vegetable kingdom.

## REPORTS OF CASES-Written or Verbal.

Dr. Atkinson, in answer to an inquiry, gave it as his opinion that he had never seen a case of neuralgia, that was not, to some extent, under miasmatic influence.

He reported a case of two alveolar abscesses, one of which he thought was matured, and cut into it, but found it was not ready. He applied fomentations, nauseated and narcotised the patient, but the cut place did not suppurate, though the abscess pointed at another place. The other matured, was opened and treated, and it healed kindly. He used tonics to counteract miasmatic influence, and to invigorate the general system.

Dr. TAFT referred to a case of diseased antrum, of twelve months' standing, with a discharge from the right nostril, not very fetid, but at times very copious. The antrum was often painful, but sometimes not. There was no swelling, no soreness to the touch, and no tooth apparently much diseased. A decayed molar was removed, and the cavity of the antrum opened through the socket, but very little pus escaped. The floor of the antrum was tender to the touch, and there was great thickening of the lining membrane, but no tumor. He washed out the cavity with soap and water, injected hyperchloride of soda into it, and prescribed invigorating

constitutional treatment. He afterward injected a solution of creosote, and again tincture of myrrh and arnica; but there was no improvement in the case, and the discharge of matter rather increased. The orifice was kept open by the insertion of a piece of pine wood. He had not seen the case for a month or two, as the patient resides in a distant part of the State, but was informed that it was growing worse, that the general health was failing, and that the left antrum was now in a worse condition than the right was when he first saw it. The case had been treated by a number of physicians. He wished to hear suggestions from others. (Here the remarks and suggestions became so much like social conversation, that we listened intently, and forgot to report.—W.)

Dr. Pease spoke of a case in which there was considerable swelling, from disease of the antrum. A lateral incisor pivot tooth was worn. He took off the artificial crown, and enlarged the opening through the apex of the root, which was followed by a free discharge of pus. He now removed the root, and found exposed bone in the antrum. He resorted to the usual remedies, and inserted a silver tube, with a flange, to allow the pus to escape freely. He prescribed iodide of potassium and sarsaparilla, and injected, occasionally, a solution of creosote. The opening began to fill, and progressed gradually, till it is now well. It was under treatment about a year.

Another Case.—The nerve of a carious molar was destroyed by another dentist, and the cavity of decay filled. The result was an offensive discharge from the antrum into the nose. He took out the filling, treated the canals, filled them and the tooth, and all is well.

Another Case.—Neuralgia of long standing. The patient had resorted to a variety of treatment. Had spent a portion of the past summer at "the springs;" but the disease continued. In conversation with the patient's sister, recently, he had told her that neuralgia belongs to dentists, rather than to physicians. The patient called on him, and he destroyed the pulp of a wisdom tooth, and there was perfect relief.

Dr. ATKINSON remarked that in a case like that reported by Dr. Taft, he would use, as a local application, pure creosote once a week, or possibly a little oftener. He thought escharotics were often used too frequently, especially in feeble constitutions.

Dr. Pease remarked that he did not like the action of nitrate of silver on exposed bone.

Dr. CHAPMAN (Physician) remarked that the use of escharotics was an important question. The impression was far too common that to use the medicine was about all that was necessary. There was too often a lack of due discrimination. He was pleased to see that such was not the case here. He remarked that when a patient is far advanced in life, violent escharotics are not applicable, as the vital powers are too feeble to make the necessary resistance, or to make due repair. Even some young persons have correspondingly feeble constitutions, when powerful escharotics will do harm. Now, it is very important to use the right escharotic, and to have it of the proper strength. He had used creosote and nitrate of silver in disease of the pharynx. Had succeeded in a recent case, by occasional applications, though the ulcerations were very numerous, while a former physician had failed, by applying the nitrate every day, or oftener.

Dr. Lyman reported a case of diseased antrum, of five years' standing. The mucous membrane was thickened, and there was a greenish-yellow discharge from the nose. He drilled through the root of the eye tooth, and passed a broach, two inches long, through it, without meeting with any resistance. He annealed the broach, and made a hook on the end of it, and endeavored with it to destroy the sac. He dipped the broach in creosote, and re-inserted it, and, on removing it, it was covered with "curdled" matter. He pumped creosote through the tooth, till it was felt in the nose. At this stage a physician was called in, and it was determined to extract the tooth. The cavity of the antrum was afterward washed out with warm water, and dressed with tannin and glycerine, and the recovery appears to be perfect.

Dr. M'CLELLAND referred to a case in which a molar tooth, with the pulp exposed, had been filled, after capping the nerve. The pulp died, and an abscess was the result. The disease extended to the antrum, and the discharge through the nose was very great, but became less copious, without treatment. Redness appeared on the cheek, and the tooth was extracted. There was now a discharge over the back part of the palate, which, however, became less and less in quantity, till it entirely disappeared. There is still pain in the region of the antrum, but not of a neuralgic character, and now he wished to know how to relieve it.

Dr. ATKINSON said he would open the antrum, and inject tincture of iodine, one part, and water, two parts. This, he thought, would have a better effect than direct escharotics.

Dr. BAXTER, when at a distance from home, had extracted a second bicuspid, on account of diseased antrum, and opened the antrum, through the socket, with a trocar, and directed the patient to blow a solution of common salt through it. The patient got well in four weeks.

Dr. ATKINSON remarked that while the natural opening into the nostril remained pervious, the cases were not so difficult to treat.

Dr. Taft said there were notices in some of the French journals of what was claimed as a newly discovered disease, called by them, "Expulsive Gengivitis." He had seen a number of cases of this disease. Many years ago, a patient came into his hands, whose teeth became loose, protruded, and seemed to be expelled from their sockets, independent of depositions of tartar, or other apparent local causes. The front teeth protruded so much that their cutting edges looked directly forward. They were removed, and the disease manifested itself about the cuspids, and, afterward, the bicuspids. The vital powers were feeble; and the patient has since died. In all the cases observed by him, the margins of the gums appeared to have less than their normal supply of blood.

Dr. WATT had seen similar cases, and remembered the one

specially described by Dr. Taft. In the treatment of the disease, he thought constitutional remedies would be required; and local treatment should not be such as would produce much irritation. He had not made the desired analysis, but presumed there would, ordinarily, be found an alkaline reaction in the secretions. If so, the use of vegetable or mineral acids would be indicated.

Dr. Atkinson said he thought the ordinary cases of diseased gums were scorbutic, and could be profitably treated, locally, with acetic acid and chlorate of potash; but this matter was new to him. He had never seen a case like the one described by Dr. Taft.

Dr. BAXTER had seen such cases. In some he had seen alternate teeth affected. He had found the disease more common in the black and mixed races, than among the whites. He had relieved some cases by cutting down the gum, and washing with whisky and sugar.

Dr. Pease was not certain that he recognized the disease from the descriptions given. He would refer to a case of ordinary gum disease. The gum was receding from a single tooth, but he could not discover that there was much pus discharged from it. He had the patient use iodide of potassium and chlorate of potash, internally, and painted the gum with tincture of iodine, and it got well.

Dr. Atkinson reported the case of a lady in whose mouth the outer wall of the alveolar processes was necrosed from the left lateral incisor to the right canine. There were, also, three fistulous openings. He took off the necrosed portion, and he was satisfied that there was not more than two-thirds of the peridental membrane alive. The teeth were, of course, very loose. He inserted wedges between them, to distribute the force equally, and filled those which required filling, forming inclined planes on their lingual faces, to press the teeth outward to their proper positions. New process formed over the central incisor, thicker than the old; and the tooth stood firmer than before it became diseased.

Another Case.—The four incisors had been filled, and the nerves died, and the teeth were much discolored; and three abscesses were discharging from their roots. He removed small portions of necrosed bone, after which the abscesses yielded to ordinary treatment, and the teeth are now tight and firm.

Another Case.—Arsenious acid had been used in a first lower molar. The transverse portion of the alveolar process died, and was removed, and new bone formed in its place.

Dr. C. F. Knowlton mentioned the case of a young lady, twenty-five years old, of good constitution, and having healthy gums. A year ago one of the upper central incisors began to protrude. At the end of six months, it stood outward at an angle of about forty-five degrees. The rest were all regular and solid.

Dr. M'CLELLAND had seen the incisors protrude when the wisdom teeth were making their appearance.

Dr. LYMAN thought there was probably a mechanical cause. He had seen the front teeth forced outward by the patient sucking the thumb.

Dr. Pease had seen a case somewhat similar to Dr. Knowlton's; but the pulp was dead. He cut off the crown and inserted a pivot tooth. A year after, the pivot tooth protruded, the case was treated variously for a year or two, but finally the tooth was extracted.

Dr. C. F. Knowlton referred to a case of diseased antrum, which occurred long ago. The second bicuspid was extracted. The next day the face was much swollen and red. The anterior bicuspid had been broken off before. He drilled through it, and there was a free discharge of pus, but the orifice soon closed up. A physician was called in, who said the first molar must be extracted—that the fangs of bicuspids never interfered with the antrum. He purged, bathed, leeched, and applied stramonium leaves, and left, but soon returned, as he said he had put the leaves on wrong side up, and the consequences might have been fatal, if he had allowed them

to remain. At this return, the physician insisted that the first molar must be removed, and it was done, under protest; but no relief was obtained. He now re-opened the antrum, washed it out with soap and water, and injected diluted creosote, ten drops to the hundred. As the case got better, the other side became affected in the same way; and the case passed out of his observation.

Dr. M'CLELLAND spoke of a soft tumor on the gum, which had continued several weeks without pain. He advised the extraction of the adjacent tooth; but the patient would not consent. He opened the tumor, and it discharged a dull, milky fluid, and sunk down, but in three minutes was as full as ever. He did not get leave to re-open it. He would like to know where the fluid came from.

#### FILLING TEETH.

Dr. RICHARDSON detailed his method of filling crown cavities in molars. He was partial to welded plugs, but did not, as some, begin at the bottom of the cavity, and weld small pellets all the way up. He tried to fill with as little labor as would make perfect work. He formed cylinders by the usual mode, cutting his strips about half as wide as the cavity is deep, and made the first one as large as he could conveniently introduce into the cavity. He condensed this by lateral pres sure, and introduced smaller cylinders, and in this way he filled the cavity about half full, with non-adhesive foil as a basement filling. To this he welded adhesive gold in strips, with serrated points, and finished with small pellets cut from the strip.

In an approximate cavity, in a lower bicuspid, for example, when the decay extends a little below the gum, he inserts a block, and lets the end project over the margin of the gum, and uses smaller blocks above this, and welds in as usual.

Dr. ATKINSON commonly uses the mallet in filling. In approximate decays the grinding surface should not be unnecessarily destroyed. He detailed his mode of filling a poste-

rior approximate decay in a lower bicuspid. The tooth should be supported by wedges between it and the adjacent teeth. He would make little cylindrical pits in the cervical wall, for retaining points, and fill these carefully. Then he would weld a pellet of gold to one of them, and hold it there with an instrument, or have his assistant do it, while he welded to the other point. He would build against the walls and finish perfectly on the surface. If the surface was made perfect, it did not matter if the center was porous.

Dr. Wells described his method of filling a certain kind of cavity, illustrating by diagrams on the blackboard. His illustrations were clear and his manipulations ingenious, but we can not do justice to them without diagrams. (We would be pleased to hear from him at length in the Register.—W.)

A general exchange of views in regard to the use of the mallet here took place, and as the hour for adjournment had arrived, the remaining subjects were postponed.

Dr. M'Clelland exhibited a new instrument for holding the lips apart while taking impressions. He calls it an "Impression Fork." Dr. Lyman exhibited an elastic mallet, for use in plugging. Dr. Pease introduced an ingenious and efficient little instrument, for holding a napkin between the lower gum and the lips. J. T. Toland exhibited a new vulcanizer, and other apparatus. The members lingered as if reluctant to leave; and though not as full a meeting as sometimes, it was both pleasant and profitable.

W.

ANTI-TOBACCO MOVEMENT.—A strong movement in opposition to the present extensive use of tobacco has been commenced in Edinburgh. At a late meeting, the following resolution was adopted: "That as smoking has a tendency to encourage the drinking usages of society, not only by creating morbid thirst, but also by its exhausting power, thereby inducing recourse to a falsely supposed substitute, it is greatly calculated to foster crime and dissipation in the masses."

## Selections.

BLOCK TEETH.—REMARKS, by J. H. McQuillen, D. D. S.—The valuable method of making block teeth described below was presented to the profession, about seven years ago, through the columns of the Dental News Letter, (July, 1854.) As the plan, however, does not appear to have attracted that attention which it justly merits, we have deemed it advisable, on account of the great practical value of the communication,

to republish it.

There is nothing in mechanical dentistry more difficult to excel in, or even to attain to a respectable degree of perfection, than the carving of teeth, and a tacit acknowledgment of the correctness of this assertion is made by the vast majority of practitioners when they employ others to do such work for them. The following plan, however, ought to enable those who possess application and a moderate degree of manipulative skill, to produce work satisfactory alike to themselves and patients.

The late and lamented Dr. Walker, Demonstrator of Mechanical Dentistry in the Pennsylvania College of Dental Surgery, who had a great deal of experience with this method, and regarded it with much favor, produced some of the most natural specimens of artificial teeth in this way that we have

ever seen.

It has been stated above that the inventor presented his plan to the profession; and we would further remark that, when taking into consideration the valuable character of the present thus voluntarily made, the act is not only worthy of commendation by those who may be benefited by it, but also of imitation by those who, year after year, secure patents for the most useless and nonsensical inventions, which they afterward attempt to foist on the profession.

We take p'easure in stating that the course pursued by Dr. Calvert in this matter was appreciated by his fellow practitioners in Philadelphia; for, without any solicitation on his part, a committee was appointed by the Pennsylvania Association of Surgeon Dentists to inquire into the merits of the method, and the committee not only submitted a favorable

report, but also recommended that a gold medal should be awarded to the inventor, which was accordingly done.

"A New Method of Making Block Teeth. By WILLIAM CALVERT, D. D. S.—Permit me, through the medium of your valuable columns, to offer for the consideration of the profession a few brief remarks upon the subject of block making, or

the manufacture of porcelain block teeth.

"It is not my intention, nor is it my desire, here to treat of the various methods that have from time to time been practiced by those engaged in the manufacture of block teeth. Nor is it my purpose to discuss the relative merits of the different methods, or of any one in particular, but my aim shall be to attempt a description of a process of my own that I adopted some time ago, and which I have most successfully

practiced.

"The first preparatory step to be taken, after having correct articulating models, is to select single teeth so defined as may either suit the taste of the operator or the peculiarity of the case, and supposing the case to be an upper denture, it will be necessary to have two front and two lateral incisors, two canine or cuspids, two bicuspids, (or if more convenient, the cuspids) and four molars, all of which should be sufficiently large to compensate for shrinkage, in the material of which

the teeth are to be composed.

"The plate upon which the blocks are to be made, and to which they are to be subsequently fitted, being upon its corresponding model, a rim of wax may be placed upon it, and the teeth arranged upon the wax, articulating with the antagonizing model, allowing sufficient in the length of the teeth for shrinkage. Beginning with the front incisors, the teeth should be set to the wax (as above) as far back on each side as the first bicuspids, inclusive; then leaving a space equal to the width of half a tooth, the arch may be completed by the addition of the molars, two on each side. The teeth having been thus arranged upon the wax, with reference to regularity or irregularity, height, etc., the desired outline of gum may be filled up with wax.

"Special care is requisite in so trimming the wax where joints are contemplated, that no subsequent alteration will be

needed during the further manipulations.

"It will be necessary, previous to making the models, to make some provision for replacing them, after they have been once removed, so that they shall occupy the same position as

they did previous to their first removal. For this, it will be only necessary to make some conical holes in the face of the cast, say two on each side, between the center and the first bicuspid teeth, and two opposite the molar teeth of each side. These holes need not be more than about a quarter of an inch deep, and should be but a short distance below the edge or line of the plate. The face of the cast, including said holes, should now be varnished, when the case is ready for making the moulds.

"The first mould to be made should be that including the four incisors, two canine, and two first bicuspids, eight teeth This may be done by simply oiling the face of the teeth, outline of gum, and plaster cast, and pouring plaster of Paris of a proper consistency over the surface of the same. allowing it to fall slightly over the cutting edges, so as to form a more perfect mould. This mould should be divided in the center, making two sections, which can be done by cutting through the plaster while in the state of hardening; or, what is perhaps better, before applying the plaster, make an incision in the wax outline of gum, in which place a thin slip of sheet-lead, letting it extend a little above the cutting edges of the teeth, and as far down the face of the cast as is desired to extend the mould. When hard, remove from the cast and teeth, and we have the untrimmed mould for said eight teeth. Previous to making the moulds for the back teeth, it is necessary to remove the first bicuspids, or the cuspids representing them, from the position they occupied in making the mould just described, and placing them beside the first molars so as to represent the second bicuspids. Care is to be taken in removing and replacing them, so that the original form of the wax be preserved, otherwise the end thereby intended to be secured will be defeated, and the joints at these points will be irregular and unsightly.

"For the purpose of rendering clear a point necessarily left somewhat obscure in the foregoing description, it may be well here to state that the space of half a tooth, left between the first bicuspids and the first molars, is to compensate for shrinkage in the length of the arch, for after the first bicuspids are removed and set adjacent to the first molars, thereby representing the second bicuspids, they occupy the entire vacancy first left and one-half the space formerly occupied by said first bicuspids; hence the extension of the back moulds toward the center is equivalent to the shrinkage of the entire arch.

"As the foregoing is applicable where the case of fourteen teeth is to be divided into four blocks, as is usual in soldering, I would say that when the intention is to make pin holes for riveting, the space of half a tooth must be left between the canine and bicuspids, instead of between the bicuspids and molars.

"The moulds for the back teeth may now be made in the same manner as those of the front ones. After the moulds have been made as already described, they should be so trimmed that in the process of moulding the blocks there would be no liability of removing portions of the enamel off the teeth in withdrawing the moulds. The moulds should now be varnished with some spirit varnish, and after it becomes dry are

ready for use.

"The moulds being prepared, the next step is the enameling of the teeth in the moulds. The enamels should be moistened with a little clean water, and having previously ciled the section or sections of the mould, the blue or point enamel may be first applied (as stiff as it will work) with a very small spatula made for the purpose. The enamel should be thin at the base, and gradually thickening with the concavity of the mould to the cutting edges of the teeth. The yellow or base enamel is next applied heavy at the base, and gradually ter-

minating near the point.

"After the enameling has been completed so far as is designed to be moulded at one time, a small quantity of the body about the consistency of a thick paste may be spread over the surface of the moulds and of the enamels, the moulds replaced upon the model, and the body carefully filled in, at first rather soft, but subsequently harder and harder, until the mould is sufficiently full. Then applying the flame of a spirit lamp for a few minutes with the blow-pipe, the body will be toughened enough to work well, when the moulds may be removed. The teeth may then be separated and trimmed, the blocks divided as desired, the gum enamel applied, etc., etc., and so completed.

"The process of enameling and moulding being precisely the same with all the blocks, it needs not that I should go

into further detail.

"I have already said, that when the blocks are intended to be riveted upon the plate, the moulds are required to be somewhat different. There is also another difference; that s, the moulding of the pin or rivet holes, which may be done by removing the plate from the model, placing the moulds upon the model, and drilling a small hole upon the prominence of the ridge opposite the center of each tooth, in which insert a piece of wire of a desired size. The enameling, etc., may then be done as before described, and after the body has been hardened sufficiently, the pins may be removed, leaving the holes neatly moulded, perfectly smooth, and straight. The blocks may then be finished at once, before removing from the cast."—Dental Cosmos.

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Extract from the discussion of the New York Dental Society on the Extraction of Teeth.

THE EXTRACTION OF TEETH.—Dr. Allen could not hope to say anything new on the subject; but he would give his mode of practice. He would commence with the extraction of superior incisor teeth. He used a small-beaked forceps and slit the gum from the outer and inner surface, making a perpendicular cut a little above, especially if the crown of the tooth be so decayed that there is any danger of its breaking. The instrument would then pass up on the neck of the tooth, firmly embracing it, and by using a rotary instead of a lateral motion the tooth can then be very easily started from the socket.

He used but very little lateral motion in removing a tooth. especially incisors or canine teeth. The rotary motion will take it out without fracturing the alveolar, and the amount of force required is far less than from lateral motion. If it is a fang of a tooth, he used the Parmlee forceps, with a sharp-edge beak, which he passed up, separating the gum, and embracing a portion of the alveolar process, and the fang will usually come out very readily. By the same movement he removed canine teeth with equal success. He was aware that the screw forceps had been used, but in his own practice he never found it of any great value. Using the screw with a deep incisor, he found it very difficult to get the thread in sufficiently firm to remove the fang; if an inflamed tooth, the force necessary to work the screw in would be so great as to give unnecessary pain. He seldom used the screw at all, but depended upon the forceps and elevator almost entirely. The old-fashioned turn key he had not used for many years, and he found no case where it became necessa-

ry to do so; and although he found some worthy dentists. with whom he had been acquainted for many years, occasionally using it, he thought it was more a mattar of habit than any thing else. He did not use the Parmlee forceps for incisor teeth in every instance; there was one with a very thin beak he sometimes used; but for bicuspids he used the Parmlee more than the other; and in extracting bicuspids, he would remark that he employed the same rotary motion that he did in extracting incisor and canine teeth, succeeding almost invariably without using sufficient lateral force to fracture the alveolar process. For the fangs of bicuspids and incisors, he used a small-pointed forceps which he could pass far up on the fang With these three instruments he was able to take out all the incisor, canine, and bicuspid teeth in the upper jaw. For the upper molars upon the right side he used a forceps with a beak that would embrace the inner portion of the tooth and a point passing between the two outer fangs of the two molars. For the left side, he used an instrument just the reverse of the other in shape—the ordinary right and left molar forceps. He made it a point to embrace a molar tooth above the crown, by crowding it up until it passed between the fangs, and by embracing the inner fang, he seldom failed to make a successful operation. If the crown be decayed, he used one of the smaller beaks and took out the fangs separately. If he found the fangs still connected and the crown all gone, he used a sharp instrument, like an elevator, separated the fangs, and, with a smallbeaked forceps, picked the parts out. In extracting the dens sapientia, or wisdom teeth, if entirely behind the other teeth, he used a bayonet shared forceps invariably, although he had an instrument, highly recommended, which came together like a cutting instrument, forcing the tooth out.

In reply to an inquiry from the Chair, as to whether he

was in the habit of lancing gums,

Dr. Allen said, if the gums adhered to the teeth he thought it important to lance them, but when the gums were in a spongy condition he seldom used the lancet. He preferred not to use the lancet when not necessary, for the reason that it frequently frightened the patient as much as the extracting instrument. Still he knew instances in which serious injury was done by not using the lancet. One case in Cincinnati, he recollected, where a dentist, in attempting to extract a wisdom tooth for a lady without lancing, tore the

roof of the mouth so badly that it had to be stitched up. which could not have occurred had the gum been properly lanced. Therefore it was necessary to use the lancet in most instances; and an experienced dentist would be always able to judge when to do so. Where he had a number of teeth to extract for one person, and found the gums in a condition that they adhered to the teeth, he often separated half a dozen at a time, then took his forceps and extracted four, five. or six at a sitting, in quick succession. Instead of stopping every time, and letting the patient spit out the blood, he did not find it necessary to stop more than two or three times in pulling out eight or ten teeth. This method he approved of strongly, for he found that the quicker an operation of this kind was over the better. Frequently he had patients who would come in and say, "I want one tooth taken out to-day, and another to-morrow, and next week another, -but I can't stand more than one at a time." He generally succeeded, however, in getting them to have all taken out before leaving the chair. In the extraction of the lower teeth, he used for the incisors a small beaked hawk-bill forceps, and for the bicuspids below, he used a hawk-bill—the ordinary left and right forceps, and for the dens sapientia, in the inferior jaw, he also used the hawk-bill forceps, and no other. For removing fangs in the lower jaw, he frequently used an elevator. Upon the right side he used a kind of punch, and, slitting the gum, threw his weight upon the punch, resting his arm against his body, which should be always done in using an elevator; otherwise, if the fang should crumble, there would be danger of the instrument going too far and injuring the tongue or mouth; but by having the forearm rest against the body, there was only the play from the muscle of the arm. and no danger of the instrument doing injury. It required some dexterity to use an elevator properly, but he regarded it with favor. In some cases he used the hook elevator, with which he removed a tooth or fang very easily. These were about all the instruments he used in extracting teeth.—New York Dental Journal.

PHOSPHORNECROSIS has become prevalent among the makers of lucifer matches in France. The Academy, at the solicitation of the Government, recommends, as a means of prevention, that matches be made of pure amorphous phosphorus.—

Baltimore Journal of Medicine.

VOL. XV.-16.

HYDRATED SESQUIOXIDE OF IRON AS AN ANTIDOTE TO POISONING BY ARSENIOUS ACID, by Wm. Watt, M. D .- The hydrated sesquioxide of iron was proposed as an antidote for poisoning by arsenious acid in 1834, by Drs. Bunsen and Berthold, of Gottingen. These gentlemen discovered that if a solution of arsenious acid was agitated with a quantity of the hydrated sesquioxide of iron, that the former was precipitated in a very insoluble form. A knowledge of this fact induced them to make a number of experiments upon animals, in order to test its antidotal powers. Of the experiments they made favorable statements, which were afterward confirmed by the experiments of Orfila, Lesueur, Soubeiran, and others. Opposed to the evidence of these experimentalists. we have only the unfavorable results of Mr. Brett and those of Mr. Orton. It was afterward ascertained, however, that the amount of the antidote used by these gentlemen was uniformly too small. More recently Fasoli has made some experiments on dogs with the hydrated oxide. He states that having procured nineteen dogs, he administered arsenious acid to five of them without the antidote; they all died. To the others, arsenious acid being administered, was followed by the antidote, and they all recovered. Unfortunately, he does not state the amount of arsenic or antidote used in any of his cases. We have a number of cases recorded, in which it is claimed that this antidote has been the means of saving life in the human subject. However, in a majority of the cases it was not known that the amount of arsenious acid taken would have been sufficient to have produced death.

When used as an antidote, it should be administered in its recently precipitated gelatinous condition, as it appears to lose its neutralizing powers in proportion to the time it is kept. It is thought advisable, in order to insure its antidotal effects, to administer about twelve parts of the antidote to one of arsenious acid. But as the antidote is incapable of producing any injurious effects, it may be administered in large quantities. According to Graham, the mutual reaction of the hydrated sesquioxide and the arsenious acid gives rise to the formation of the arseniate of the protoxide of irou. This change would be represented by the following formula:

Taylor says that the hydrate is incapable of acting as an

antidote when the arsenious acid has been taken into the stomach in the form of powder. The hydrated oxide, in order to act as an antidote to poisoning by the arsenic salts. requires to be combined with an acid, which may separate the base; then the arsenious acid and the oxide react on each other.

The above results being somewhat discrepant, we, at the suggestion of Professor Wormley, undertook a series of experiments in his laboratory, for the purpose of satisfying ourselves of the real value of the antidote in poisoning by arsenious acid when administered to dogs. We were kindly assisted in the experiments by Dr. Willis and Mr. Pinnell.

The antidote was prepared by precipitating the muriated tincture of iron of the shops with ammonia, filtering through muslin, and washing the filter until the washings were free

from ammonia. The mass was then drained.

In administering the antidote about two table spoonsfull

of the magma were given to each dog.

Before making any experiments as to the action of the antidote, it was thought advisable to ascertain the effect of the arsenious acid solution alone upon the animals. The first seven cases were, therefore, confined to the acid solution without the antidote.

In the first fifteen cases, the arsenious acid was in solution in the proportion of two grains of the acid in one fluid ounce of water.

Experiment 1st; weight of dog 50 lbs.—Two grains of arsenious acid administered; symptoms of pain came on in fifteen minutes; which were followed in ten minutes by vomiting, which continued about four or five hours, and were then followed by bloody purging. From this time the animal recovered.

Experiment 2d; weight 60 lbs.—Three grains administered; symptoms of pain came on in twenty minutes, and vomiting in about thirty minutes. The vomiting continued with great severity for about six hours; it then gradually ceased, and was followed by purging of blood, which continued about. two days, during which time the animal refused to take any food. He finally recovered.

Experiment 3d; weight 18 lbs.—Three grains administered; symptoms came on in fifteen minutes; the animal apparently suffered great pain, which he manifested by frequently changing his position, whining, &c. He did not vomit for about thirty minutes after the poison had been administered. The vomiting was continued and severe. The matters ejected consisted of a thick white frothy tenacious mucus, which the animal had great difficulty in expelling from the mouth. The vomiting ceased, and he gradually lost the use of his limbs, and died comatose, six hours after the poison had been administered.

Experiment 4th; weight 15 lbs.—Three grains administered; symptoms came on in fifteen minutes, followed in five minutes by vomiting, which continued about five hours. The animal died in eight hours after the administration of the

arsenic.

Experiment 5th; weight 12 lbs.—Six grains administered, but part of the solution evidently passed into the trachea, as its administration was followed by strangulation, coughing, difficult breathing, etc.; vomiting came on almost immediately, and continued about an hour and a half, when the animal died.

Experiment 6th; weight 25 lbs.—Six grains administered. Symptoms of poisoning came on in eight minutes, followed immediately by vomiting and symptoms of pain. The vomiting which was very severe, at first consisted of a thick glairy mucus, but soon became mixed with a considerable amount of arterial blood. The animal died in about six hours.

Experiment 7th; weight 30 lbs.—Six grains administered. In about three minutes the animal showed evident signs of pain, and vomited in five minutes. The vomiting was severe, and continued almost without interruption for five hours, when it ceased, and the animal becoming comatose, died.

Experiment 8th; young dog, weight 10 lbs.—Two grains administered, followed in about five minutes by the antidote. The animal showed some signs of the action of the poison in about forty minutes, but did not vomit for about an hour; he then vomited once, after which he became stupid and was inclined to sleep. These symptoms continued for about three hours, after which he appeared perfectly well.

Experiment 9th; weight 15 lbs.—Three grains administered, followed immediately by the antidote. Symptoms of pain came on in thirty minutes, and vomiting in about one hour after the poison had been administered. The vomited matter consisted of the antidote mixed with the alimentary matter

of the stomach. This animal recovered.

Experiment 10th; weight 12 lbs.—Three grains administer-This was followed in about ten minutes by the antidote. Symptoms of poisoning came on in thirty minutes after the arsenic was administered. He then showed some signs of pain, and vomited two or three times—the vomited matter consisted of mucus mixed with the antidote. During the first three hours after the appearance of the symptoms, he was somewhat stupid, but at the expiration of that time he appeared about as well as usual.

Experiment 11th; weight 35 lbs.—Four grains administered, followed immediately by the antidote. The animal showed no symptoms for upwards of an hour; he then became slightly uneasy, being inclined to move about. These symptoms, though slight, continued for an hour when he vomited twice: the vomiting was attended with but slight effort and was not repeated. Symptoms abated, and the animal appeared to have recovered perfectly in three hours after the arsenic was

administered.

Experiment 12th; weight 20 lbs.—Four grains administered and followed immediately by the antidote. The animal showed no symptoms for more than an hour; he then appeared to be suffering from pain. One hour and a half after the administration of the poison he vomited; the vomited matter consisted of the antidote mixed with a small amount of mucus. The vomiting was not repeated. This animal recovered speedily, partaking of food in three hours after the poison had been administered.

Experiment 13th; weight 40 lbs.—Five grains administer-The antidote was not administered until ten minutes after the arsenic. The animal showed marked symptoms of pain in twenty minutes, then vomited a considerable amount of a thick glairy mucus mixed with the antidote; made several attempts to vomit afterward, and appeared somewhat dull and stupid for about six hours. The symptoms gradually

diminished and he recovered in about eight hours.

Experiment 14th; weight 18 lbs.—Six grains administered, followed immediately by the antidote; symptoms of poisoning appeared in ten minutes, vomited in fifteen, and appeared to suffer some pain for about six hours, during which time he made a number of attempts to vomit. This animal showed none of the symptoms of depression or stupor that marked some of the other cases. The animal recovered in about eight

or nine hours.

Experiment 15th; weight 15 lbs.—Six grains administered and followed in about five minutes by the antidote. The animal vomited almost immediately after the antidote was administered. The vomited matter consisted of a large amount of greased paper which the animal had eaten; with this was mixed the entire amount of antidote administered, as was shown by the subsequent vomiting. The antidote was not repeated. The symptoms gradually increased in severity, and the animal died in about six hours from the time the arsenic was administered.

In all the following experiments the strength of the arsenious acid solution was in the proportion of twelve grains in

one fluid ounce of water.

Experiment 16th; weight 25 lbs.—Six grains administered. Symptoms of poisoning came on in eight minutes; the antidote was then administered. The animal vomited in about five minutes after the administration of the antidote, and appeared to suffer some pain. The vomiting was repeated several times, after which the symptoms of pain gradually subsided and the animal recovered.

Experiment 17th; weight 18 lbs.—Six grains administered, followed immediately by the antidote. Vomiting commenced in about ten minutes, and was repeated two or three times;

after this the animal showed no sign of distress.

Experiment 18th; weight 18 lbs.—Six grains of arsenious acid in solution were mixed with about fifteen times its weight of the hydrated sesquioxide of iron and allowed to stand twenty minutes. The mixture was then administered. The closest observation failed to detect any symptom whatever as an effect of the mixture.

Experiment 19th; weight 15 lbs.—Seven grains administered, followed immediately by the antidote. Symptoms appeared in about eight minutes, vomiting in fifteen minutes. The vomiting was repeated three or four times, after which the animal soon recovered, not having showed much signs

of suffering.

Experiment 20th; weight 25 lbs.—Seven grains administered. The animal exhibited some signs of pain in about five minutes. A large amount of the antidote was then administered; this was followed by vomiting, which was repeated several times, each vomit showing the presence of the antidote. The animal appeared a little stupid, but showed no signs of pain, but recovered in about five hours.

Experiment 21st; weight 20 lbs.—Eight grains administered, followed immediately by the antidote. Symptoms of pain and uneasiness came on in eight minutes, followed by vomiting, which continued about an hour and then ceased. After this the animal showed some signs of pain but recovered in about seven hours.

Experiment 22d; weight 30 lbs.—Eight grains administered. Symptoms came on in five minutes; the antidote was administered in three minutes after the first appearance of the symptoms; vomiting came on in less than two minutes after the administration of the antidote. The vomiting continued with an apparent increase of all the other symptoms. The antidote was repeated; after which the animal vomited twice or three times. The symptoms gradually diminished, and the animal recovered.

As a deduction from the above experiments it is obvious, when the cases in which no antidote was given, are compared with those in which it was administered, that the hydrated sesquioxide of iron is an antidote for arsenious acid when administered in solution.—Med. & Surg. Journal.

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Perchloride of Iron.—This powerful styptic and astringent has been heretofore, we believe, in this country, used mainly as an external application. We have heard in one instance of its successful use internally in a case of obstinate nasal hemorrhage. We transcribe below two cases, where it proved valuable as an internal remedy, from the British and

Foreign Med. Chir. Review:-

Dr. Sassier, of Châlon-sur-Saône, was called to see a man aged 70, who had been seized suddenly with depression, nausea, and shiverings, and three days after these preliminary symptoms there followed epistaxis, hæmatemesis, and hæmaturia; the patient lost blood both by the gums and the rectum. At the same time petechiæ and ecchymoses were developed on the trunk and limbs. Iced drinks were ordered, together with dilute sulphuric acid, and extract of rhatany, but without success, and indeed the symptoms seemed to be increased. The hemorrhage continued, the tongue became dry and black, and the prostration was extreme. Dr. Sassier then prescribed the perchloride of iron, dissolved in distilled water, and sweetened with syrup, to be taken in spoonfuls

every hour. The next day the patient's state was the same, but on the succeeding day there was a sensible diminution of the hemorrhage, which ceased on the third day, but the perchloride was continued for two days longer. The disease seemed to be cured, but a week afterwards the hemorrhage reappeared, and the perchloride was again ordered, and after it had been employed two days the bleeding entirely ceased, and was never again renewed. The patient recovered after a prolonged convalescence.

Dr. Bertet relates another very severe case of purpura hæmorrhagica treated successfully by the perchloride of iron, and in this case the remedy was employed to the exclusion of all other medicinal agents. Dr. Bertet considers that at present the perchloride of iron is the best remedy for purpura hæmorrhagica, and that in some cases it is almost infallible.

# Correspondence.

MESSRS. EDITORS:—The Pennsylvania College of Dental Surgery had their "Commencement" on the evening of Feb. 28, 1861, in the presence of a large and brilliant audience. The valedictory—a very appropriate address—by Prof. W. Calvert.

The class numbered sixty-three, of which thirty-six graduated. In the class were representatives from seventeen States, also from England, Germany, Switzerland, Cuba and

Turkey.

The Demonstrators report 567 patients treated during the session, for whom the following operations were performed: 720 gold and 360 tin fillings (consuming about twelve ounces of gold foil); treatment and filling of pulp cavities, 176; extraction of teeth and roots, 3,129. Also, removal of salvary calculi, insertion of pivot teeth, treatment of inflammation of gums, alveolar abscess and irregularities.

In the mechanical department, whole sets of teeth inserted,

14; upper sets, 62; upper sets of block, 4; partial sets, 79; also, irregularity, plates, etc.; whole number of teeth mounted, 2,039.

The Baltimore College, I learn from a programme, had its twenty-first annual Commencement on the evening of Feb. 26, 1861. The class numbered fifty-eight, from which twenty-nine graduated. In the class were representatives from fifteen States, also from England and Prussia.

Vulcanizers.—These articles have not been free from the usual consequences of competition as a cheapening process, their substantiality decreasing with the decrease of price.

I have just been to see a member of the fraternity, who, some five days ago, had one of these appliances of Vulcan blow up, and that he is now alive is owing solely to the fact that his head was not in a line with the flying top of the machinery; as it is, however, his sight is very materially affected from a portion of the steam, and perhaps the packing, being driven in his face. There are hopes now that he will recover his sight, but at first there were many fears that the sight would be lost.

I examined the wreck, and found that the boiler was made of copper, and the head or cap of cast brass, which screwed on a brass rim attached to the outer surface of the boiler. In the top was what purported to be a fusible metal plug, but which plug remained firm and unaffected. There was also a small metal plug in the side of the upright, and just below the bulb of the thermometer, intended for a safety valve, but which was useless in that position. The fracture occurred in this cast brass head, which blew off, making a clear short fracture all around and in a perpendicular line with the inner surface of the boiler. The brass at no place where fractured was over one-eighth of an inch in thickness, and had the appearance of a very coarse quality of metal.

I was informed that at the time the explosion occurred, the thermometer indicated a heat of 340°, and that he was just about leaning over to turn off the gas. To my question why

he ran it to so high a heat, he answered that the manufacturer had assured him that all his machines were thoroughly tested up to a heat of 400°, and that they were entirely safe up to that point.

Now, what is a little peculiar, a similar machine by the same maker (in New York city) exploded in the same manner in same person's work-shop, but a few weeks previously, but fortunately, injured no one. On that occasion the heat was inside of 300°.

I have related these facts that the profession may see that there is necessity for considerable caution in the purchase and employment of these instruments, and that cheap goods of any kind are not always the best, but generally the reverse.

Another case I will mention, which has just come to my knowledge, where, but for thoughtfulness on the part of the operator, injury might have resulted, even with the best appliance. It was the discovery, after waiting the proper time for the heat to come up, that the bulb of the thermometer was fractured, allowing the admission of air, which of course rendered it useless. Had the thermometer been the sole reliance in this case, the result may be conjectured.

What has become of the Baltimore Journal of Dental Science? The number due last January has not yet made its appearance. Yours, O. U. C.

PHILADELPHIA, March 19, 1861.

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MAD RIVER VALLEY SOCIETY.—The next quarterly meeting of "The Mad River Valley Dental Association" will be held at the Phillips House, in the city of Dayton, on the 2d April (Tuesday), at 2 P. M.

Subjects for Discussion:

- 1. "Periostitis."
- 2. "On the best mode of keeping natural and artificial teeth clean."
- 3. "On the best mode of separating teeth preparatory to plugging them." G. L. PAINE, Sec'y.

The second annual meeting of the Kentucky State Dental Association will convene in the City of Louisville, in the parlor of Masonic Temple, on Tuesday, April 9, 1861, at half-past 10 o'clock, A. M.

It is hoped that all interested will attend.

Respectfully,

J. W. GRANT, E. J. PECKOVER, W. MUIR ROGERS, Executive Committee.

### Editorial.

#### DENTAL PATENTS.

Our correspondent in the March number of the Register, takes exceptions to our remarks on Dental Patents in the December number, or at least he says he can not agree with the tenor of our article. But we think he has hardly touched the points we made, sufficient for us to know whether he agrees or disagrees.

He says, "Gain, profit or remuneration, call it what we may, is, I am satisfied, the chief incentive to discoveries." It is true that the mass of so called inventors are very much influenced by the hope of gain, but the great majority of those who are influenced by gain never make discoveries of any real value. It is patent to every one who is at all familiar with such things, that almost every discovery and invention of any importance or real value, has been made independent of any such influence; they are usually made by persons possessing a native talent for invention and discovery.

The thousands of useless inventions are very striking and characteristic exhibitions of those who invent for gain.

Our correspondent does not pretend to gainsay the assertion that the dentist who advocates patents for any thing pertaining to his profession, arrays himself against the opinion and judgment of the best and most intelligent general practitioners of medicine of this and other countries, and at once forfeits their regard for, and appreciation of him, as a professional man.

The lost arts argument does not amount to any thing. The people in the days of old were not in a condition to appreciate and use inventions as now.

Any thing that was useful and valuable to mankind generally, was not and could not be lost.

Is invention and discovery a sufficiently sure method of making money to warrant any one to embark in it for that purpose. The tilt made at the "lauded medical view" of this subject is wholly gratuitous. The idea is held out here, that as the extent of the dentist's practice will warrant, up goes his prices from one dollar, step by step, to five or even ten dollars, as the case may be, for a single filling. He farther remarks, "In conversation with a dental acquaintance, on the subject of professional charges, the question was asked, What is the difference ordinarily between a three and a five dollar filling? The answer was, 'precisely two dollars.' " Now if he intended to say that this is all the difference, we take issue squarely, and hesitate not to say, that those who charge the largest fees make the best fillings; and that as an operator increases his fees he improves the character of his operations in a corresponding degree. It may be different in the acquaintance of our correspondent, but what we have stated is certainly true in the circle of our own acquaintance. This is the only true basis upon which to make an increase of fees.

We know of many operators who now charge from three to ten dollars for filling, and make less money than when they charged but one dollar.

#### FREE NATION.

A paper bearing this title has recently been started in this city, under the editorial charge of Dr. C. B. Boynton, and Prof. H. V. N. Boynton.

It takes the position that religion should exercise a controlling influence over men in all circumstances, conditions and occupations; that the Bible should be a rule by which to measure all our acts, not only those which are religious, but also those of a social, civil, and political character.

We are pleased to see that this subject has been made a prominent point by this paper. Men everywhere are prone to forget that there is a supreme ruler who takes cognizance of all the minutiæ of their lives.

This paper labors to bring them back to a remembrance of this truth—and a great and glorious work it is.

We hope the paper will be well sustained, and not only sustained, but read, and that the editors will be encouraged to prosecute the good work in which they are engaged.

T.

### NAPKIN HOLDER.

We have used this instrument described on p. 225 of the present number of the Register, and find it to be very good in many cases.

By placing under it a roll of paper or cloth, the lips and cheeks are held away from the teeth nicely. For the lower teeth by using it in connection with Hawes' tongue-holder, the operator can employ his left hand for some other purposes than holding the mouth open, and the lips away from the point of work. Some operators have a great aversion to new things, at least till others have thoroughly tested them. This arises from a dislike to go out of the beaten path, or from parsimony. Every thing unless palpably worthless, that is presented to the profession, should receive consideration and examination, and if it stands the test, then it should be tried, and not only by a few, but by many, by all. Frequently, an instrument or appliance will be found valuable in the hands of some, while others will fail to appreciate and consequently to use it. The only way in which an operator can know whether a new instrument will be valuable in his hands, is to try it. Some boast of doing every thing with the smallest number of instruments; while the truly skillful and scientific operator will use such a variety as will meet most perfectly the exigencies of every case. It is not long since the old fashioned speculum was the only appliance of this kind, there are now eight or ten different instruments of this class, and all valuable-evidence of progress. T.

#### SENSITIVE DENTINE.

We recently operated upon the teeth of Mrs. ——, which exhibited a peculiarity with regard to sensitiveness that we had not before observed to the same extent.

Ten teeth were filled; in almost every instance upon opening the cavity and beginning to excavate, there was very little or no sensitiveness apparent; but as the excavation proceeded, the tooth would become exceedingly sensitive in a few moments. This condition seemed to occur at the time to several of them; chloride of zinc, creosote and iodine, was repeatedly applied without any lessening of the sensitiveness, the teeth were filled while in this condition, and the sensitiveness subsided after a short time.

The peculiarities of this case, viz.: the rapid occurrence of sensitiveness under the excavator, and the resistance manifested to the ordinary remedial agents, were such as we have not observed in any former case, and especially where there is not some well defined, predisposing cause, which there was not in this case. There was, however, rather less than the wonted strength and some irritability of the nervous system. Have others found cases of this kind, and what is the best course to pursue?

T.

### LOST, STRAYED OR STOLEN.

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The Dental Register of the West copies an editorial article from this Journal without credit.—Medical & Surgical Reporter.

The above we find in the Medical & Surgical Reporter, and we freely acknowledge the fact, that one of its editorials appeared amongst our selections, without credit. This was simply an oversight, and nothing more. The article is amongst our selections, and of course no one would think that we intended to appropriate it as our own in any respect, and it would strike every one as a simple omission to credit. We would just as soon give the Reporter credit for selections as any journal in the world.

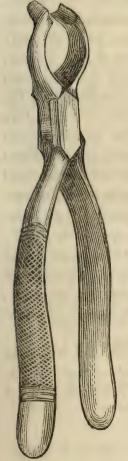
We have no "pick" at the Reporter, indeed we think it a very nice journal, and a very good one, too, and we rather admire its

spunky editor, and we like to see a man stand up for his rights, especially where a great principle is involved. Please forgive us, and we'll credit you a good deal next time.

A fellow at our elbow says, that it is difficult to tell which should have credit for the article in question, the Reporter or the London Lancet. But he's green.

#### FORCEPS.

The accompanying cut represents a forceps invented by Dr. M'Clelland, of Louisville, Ky.



The object of the instrument is to enable the operator to remove the second or third inferior molar, when the parts are swollen, and the mouth closed so that the ordinary forceps can not be introduced. The beaks are long and curved, so as to admit the crown of the anterior adjoining tooth between them, without being embraced; the points reaching on the tooth to be extracted and embracing it.

By this arrangement if the anterior teeth can be separated to the extent of the thickness of the joint of the instrument, which is about one-half an inch, the instrument may be introduced, and the tooth extracted. It is a valuable instrument—one that fills a niche—and should have a place in every dentist's case. The price is the same as the ordinary molar forceps.

A PRACTICAL TREATISE ON PHTHISIS PULMONALIS: Embracing its Pathology, Causes, Symptoms and Treatment. By L. M. LAWSON, M. D.

This work we have from the Publishers, Rickey, Mallory & Co. The work is prepared with particular reference to this disease as it exists in America. The author remarks, "It is not presumed that consumption is different in this country from the same disease elsewhere; but at the same time it is evident that the influences of climate, domestic habits, races, and other modifying conditions, render a systematic account of the disease as met with here, highly important." A systematic and well arranged work upon this subject is certainly of great importance, sumption has been more prevalent, and more fatal in the United States than any other disease. This results, we doubt not, to a very great extent, from the fact that there has been no settled, well defined and systematic prophylactic and remedial treatment. with the physicians generally. There has been a great diversity of opinion in regard to the nature and treatment of this disease; some medicating extensively, and others doing nothing, each course about alike fallacious, judging by the results. In the work under notice the author occupies the entire ground, and we think, very thoroughly and practically. The nature of the disease, all its conditions and modifying influences, are discussed with great clearness, though with brevity; and all the material truths and facts are presented in such a way as not to be misunderstood. The influence of climate and locality upon the disease is fully discussed, as also the rationale of their operation.

The views and opinions of the author are entitled to very great regard, from the fact that he has made the study of this subject a life business, his practice in this disease has been very extensive, and whenever he presents an opinion of his own it is based upon personal observation.

The work is written in a very attractive style, and would be very attractive and interesting to the non-professional man, as well as the physician. No physician can in justice to himself and his patients be without this work.

T.

#### THE

### DENTAL REGISTER OF THE WEST.

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## Original Essays and Communications.

#### IMPARTATION.

(Read before the Mississippi Valley Dental Association, Feb. 20, 1861.)

BY DR. W. H. ATKINSON.

THE limitless variety in the degrees of perception of understanding, as well as of execution, puts it out of the question for the best instructor to make himself apprehended by all the members of his class at once. And as perfection of ideal conception must precede perfection of manipulation, it requires the patient earnestness of goodness to repeat and re-repeat the demonstrations of his curriculum until the last and the slowest in apprehension shall have been illuminated.

What shall I say, then, most to instruct you, my brethren, and thereby secure to myself the illumination of truth? It is not my prime purpose to amuse you; but if I shall be enabled to secure your interested attention, you shall be let into my best fields of idea, thought, opinions, belief and knowledge, which, I hope, may be the means of instructing at least some of us.

Honesty in our inmost is our safest protection, for it is not possible to depart in any degree, and remain free from the evil consequences that will be sure to find us out. Those satisfied to spend their time and money to be merely amused, are the congeners of those pseudo scientifics who are satisfied to take demonstrations at third, fourth or fifth hand, rather

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than take the pains to pass the ordeals necessary to make them masters of the propositions under consideration. Those willing to take at fifth hand are the class who clearly perceive ideas, and at once miscall them knowledge, and remain incomplete and vague in proportion to the mistake they perpetrate. While those of the fourth hand class correspond to those satisfied with thoughts, only, and foolishly set them down for knowledge, and are ever complaining of the difficulty of making themselves understood; asserting that they see the proposition clearly, but can not tell or write it. Their mistake is like the fifth in kind, but one degree less destructive.

The third class remain in opinions, with the uncomfortable struggle uselessly put forth to reconcile their irreconcilable feelings, until they pass two more ordeals, viz.: belief and well defined knowledge.

The second class approach one degree nearer the culmination of mental effort, and are within one single step of the declarative state, in which they can joyfully say "Eureka," (we have found it.)

Those who persevere are alone the ones properly and legitimately belonging to the first class; who come into relation with the blessed realities of the living embodiment of light, life and truth, (which constitute the trinity of all demonstrations of the departments, as well as grand centers of science): which bring us to the immediate verge of the finite, and compel us to acknowledge the positive certainty of the Infinity above and beyond us. The law of impartation is the true means of development, mentally and physically: for the moment we have attained the unfoldment necessary to perception of new truth, it is necessary to "fix it," as it is called, by imparting it to paper, our fellows or to the winds, if neither means of writing nor persons to whom to communicate are at hand.

Were our psychometric powers sufficiently developed, we could imbibe the whole of the products of the mental labors thus written or spoken by simple contact, in the first instance

by touch of the book or person, and in the second by the touch of the atmosphere in which the words had been produced—conveying at times to us a fuller and deeper meaning than had found reception in the mental organism that first closed the conjunctive circuit producing the demonstration: fixing the knowledge in our minds far more irradicably than our most approved methods of the former teachers. This in-ability for properly dissecting and recomposing mental phenomena has been our chief barrier to certain and satisfactory mental philosophy.

FEELING being the primal exercise of sentients, is necessarily the one ground upon which we can all meet and commune in the true democracy of our natures.

Were all regularly developed from this unitary plain, we should be able at once to assign to each his proper place so accurately as to satisfy all. But an ever-varying impetus relationally presenting itself, hastens one through the entire field, elipsing some and indelibly impressing other incidents of travel upon the recollection, and slowly taking others along, thus some are in one stage of unfoldment and some in another, so that it requires the hand of the master to classify and put them each to his proper work. The primal, claiming to be able to accomplish all that it is possible for any to do. while the one in advance knows he is not capable the moment he proves him by allowing the test of effort to show him up; so he who will not kindly take the instruction of advanced preceptor must either remain in his low state or be borne out of his errors by the extrusion of failures, coming so sharply to him, as to make him feel--imagine-think-opine-believe and know, where he does in reality stand. And being thus certainly convicted of his ignorance, errors, and sins, induce him to apply to the only source that ever can convert him from the falseness of his ways, and bring him to clear perception of the wholeness of truth.

All may be penetrated through the plain of feeling when caught off their guard that they have put up to keep us out

of their inner temple of personal, selfish "sacredness," as they call it. It matters not what may be the particular object or subject of feeling, as soon as it has become epidemic, it carries with it strong and weak alike, if once caught out of this seclusion that annihilates or chokes off feeling.

Public opinion is but the concentration of this presence,—that constitutes oneness of feeling, and sways with almost omnipotence all communities of nation, state, country or race—to the accomplishment of a purpose incomprehensible to all save a very few. Hero worship is the great example of this

phase of concentrated mental force.

So prolific is the rich mental soil of well fed humans, that every germ dropped into it hastily bursts its pellicle, and urges with tropical ardor the sleeping idea (form type) to a luxuriant and rapid, if not monstrous growth to distortion, in a marvelously short period. The only reason that it is marvelous is because it is new to us, for if we understood the law of development of soul (mental) force in its unitary forms, we could better appreciate it in its aggregations; and should be able to calculate results beforehand in a given case, be it individual or community.

Human beings must have communion—association—and if they have not high and refined forms of society, they as naturally come together upon such terms as present themselves—the unoccupied or negative being most at the mercy of this instinct—feeling. Had we the humility to follow this "instinct"—"first impression," as it is called, we should never make any mistakes. But alas! we begin to calculate, and as we say, "investigate," in whose mazes we soon become lost; and the first moment we lose the thread of our purpose, this mysterious presence (public opinion) impregnates us, and leads us captive, with the tide keeping up a sort of delirium of excitement, until the time and occasion subside, leaving us to the misery of reflections upon misspent time in playing a part we had no real purpose in or appreciative knowledge of.

The man who can see and logically trace conjunctive forces

in his carthly mental history only, may well be excused for tarrying in the plain of logical combat. Logic will do as a means, but never as an end or ultimate. But he who recognizes that all he does on earth ought to be the dictate of his guardian spirit or angel, will be less inclined to tarry in the low plain of mere logic, when he may so easily soar into the wholeness of ideal worlds, vivifying all beneath, just as the soul makes and sustains the body.

Bodies may be imperfect representatives of the living principle within, just as our mental natures may fail to express the beauty intended to be symbolized by our guardians of the skies.

Do you ask how is this? I retort, do you need to be told? Cast your eyes about you, and show me a perfectly symmetrical body if you can! But no one doubts for a moment that the germs from which our bodies were developed had an exact degree in perfection, size and proportion, as certainly as that they were not germs of the horse, lion or sheep. why are not bodily forms equally perfect as the type by which they were outwrought? Simply because the physical conditions of development were not as perfect as the type. No builder, be he ever so accomplished, can make a good building out of poor materials. His model may be all that architecture could desire, and his contract in perfect agreement therewith, with him who was to supply the various bricks, mortar and other necessaries; but a failure on the part of this last agent necessarily has its effect on the structure. If the materials are supplied at irregular intervals and in irregular quantities, though of the requisite qualities, a survey of the work will show it to all acquainted with the principles and laws involved. Much more apparent will it be if the quality be also bad. It is not every house that is imperfectly made that the owner throws on the hands of the architect; nay, most houses are in many respects less perfect than the draught called for; and yet the owner compremises the matter, and moves into and puts up with the imperfections

rather than seek to better it in another trial, that might result in no better success. In like manner, our spirits accept our bodies as the best our souls could build for us under the circumstances.

It is pertinent to inquire, what are the circumstances that render us less perfect than the types from which we sprung?

I. FOOD—constituting the crude materials out of which to construct the parts of our bodily building.

II. The air we breathe, to renovate, purify and desiccate these bricks and cement constituting the walls of our bodies.

III. The company we keep, simulating the workmen who properly or improperly bring together, lay and correlate the parts into one harmonious or discordant whole.

Hence, good food, good air and good company in full play always must produce a harmonic being. And as certainly as this is the happy result under these favorable circumstances, will inharmony and unequal development result in the ratio of departure from good food, air or company. This trinity of circumstances make or mar every human body.

When thus harmonically constructed to its full measure, the body becomes the fit temple for the ghost, or soul and spirit—the soul holding the relation to the spirit that the body does to the soul.

Molecular life, systemic life and conscious life are the trinity that together compose the earthly human life in body.

1st. The sentient or conscious life may be absent, and yet systemic life go on just the same, except in a degree less vivid:—circulation slower—secretions also held somewhat in abeyance, or the reverse of these.

2d. The systemic life may also retire for a time, without permanent injury to the organism, if the molecular life be not retracted at the same time.

3d. Molecular life may in part retire, and yet the being not become disrupted as to original identity. To properly state so as to be apprehended, I will formalize:—

1'. Spirit-corresponds to conscious life.

- 2'. Soul-to systemic life.
  - 3'. Body-to molecular life.
- (a) It is very evident that all the purely mental perceptional processes go on in the spiritual plain.

(b) Those pertaining to appetites and passions occur in the

soul plain exclusively.

- (c) The molecular actions which constitute integration and resist disintegration are allied to vegetable and mineral life, and properly belong to and occur in body.
  - 1°. Spirit absent—In trance. Spirit suppressed—In syncope.
  - 2°. Soul absent—In trance and syncope. Soul depressed or focalized—In ecstacy.
  - 3°. Body absent—When disintegrated. Body suppressed—In somatic death.

Proofs of the above assertions:

1°°. Relations of what the spirit saw in the trance state, when occurring normally and spontaneously, or by anæsthetics and partial syncope.

And the entire absence of all sensation in the body during the sentient lapse.

- 2°°. Stoppage of the processes of respiration, circulation, secretion and excretion—in trance for hours and days—in syncope for shorter spaces of time.
- 3°°. The body is absent in just so far as it becomes wasted by emaciation, loss by the disintegration of abscesses, sloughs or mechanical mutilations or chemical changes after somatic death. It is in the suppressed degree in all preparations of whole cadaver or parts charged with antiseptics—this very preservative power owing its efficiency to the infinitessimal division of the life force, here denominated molecular, aggregative, vegetative or mineralogic, and is nearly allied to its fractional expression, denominated solidification.

Just the degree of elasticity or capacity to be elongated pertaining to spirit and soul has not been demonstrated to my vision, but we may safely state that the spirit can not retire to a great distance without also taking its clothing (body) the soul, with it.

The plains of correspondences will throw some light upon this. The spiritual corresponds to the ethereal plains of existences. The soul to the magnetic plain or sphere. And body to crude electrical plain.

Hence, the spiritual will be ethereal-the sympathetic

magnetic, and the concentrated electrical merely.

FEEDING has three objects and three modes, the first and second being incipient and introductory stages to the third object with its mode, the focalizing point and culmination or expression for which they were called into play—the construction of habitat for soul and spirit:

1st. To bring together granules to form cells out of whose aggregations spring tissues and organs, to be arranged into

system.

2d. Charging these molecules, cells and tissues with magnetic polarity (the apparent inception of sex) by induction, constituting them a fit habitat for the soul proper—so that,

3d. The spirit can inflow and possess the soul, as it had the system, and thus complete the machinery to outwork

character in the spiritual sense.

Character, like will, owes its existence to the conjunction of the elements composing it, and is not subject to perception or measurement but by the impress it gives the spirit, soul or body. They all in turn being negative in character when first formed, simulating the paper on which to trace whatever seemeth good to the writer. A certain dominant tendency in these may be present, modifying the ability of character to work in its beautiful designs: just as paper may not always be purely white—dinginess or colors in a degree rendering obscure the impress of the chirographer.

The astute mind will have perceived that a starting point was taken at granules, and may wish to know why I do not go back and expose the inception of molecules, as well as cell

and its aggregations.

The reason is plain—to feed implies some thing to be fed, and so I began with the granule and fed it to the cell, and so on in the series of elevations and complications of parts until we came to the spirit.

Feeding implies the disruption of old and institution of new relations, from simple imbibition to the most complicated elective affinities in the finest pabulum composed of the richest and choicest ethereal foods.

The chasm is so great between the ethereal spirit of human existences in their present advancement, and the coarse depravity of plant and animal as produced under the destructive influences of what is called civilization, that immediate assimilation is out of the question, and so we are forced to the necessity of long, careful processes of chemical preparations of these for food, or of searching for it in low structures of fishes and other unperverted wild creatures of field and flood, so readily assimilated in their almost living state.

The very fruits even of high culture in some degree having to pass the chemical ordeal to dissipate the falses that had found lodgment in their cells, being shed from the "wicked" or "unwilling" labor that produced them, or collected, transported and sold them: every personal electrosphere they touch either deteriorating or regenerating their qualities for the sustenance of the soul and spirit in the true equipoise of harmonial degrees.

It is said a man is, in character, like what he eats. This elucidation will in some degree suggest the reason why: The digestion of some individuals is so vigorous that it prepares apparently all varieties with equal facility, rejecting non-affiliating elements so promptly as to give them no time nor opportunity to set up schisms in the system. Usually, however, these are examples of mere animals with but very little mental development.

When the individual becomes fine, if fine, he seeks the higher pursuits, leaving the gross drudgery to those of concomitant coarseness, roughness and strength.

We must not here mistake the too prevalent inaction of unwillingness to be alive at all in any useful employ, for this seeking of higher forms of labor; for be it ever remembered that the very law of life is action—equal, steady and persistent—as certainly as that the law of death is the reverse of this, whose inception too often comes to us in the guise of an angel of light, to "ease" us of our "burdens." O! that we could see that the only safe method of becoming freed of burdens, is to carry cheerfully the burden to the one proper place, and then will the proper officer remove it from our shoulders, and give us in return the sweet product of earnest, honest, blessed, joyous, cheerful labor!

All legitimate advances to higher artistic or scientific attainment, like natural bodily existence of independent individualized life, must pass the ordeals of parturient throes and the shocks of new and untried atmospheres, that surprise us into explosive, irregular, sometimes discordant notes-shocking to the novice in such matters-but the old, experienced obstetrician congratulates himself and the friends always in proportion to the vigor of the notes of resistance to and expulsion of the new atmosphere; having learned from experience that this very act is the surest means of establishing the new pulmonic circulation, without which no isolated, independent existence could be attained. In the cases enumerated, voice, that constituted individuality, is no objection, but rather matter of gratulation to intelligent listeners. Let, then, these truths not be rejected because of their individuality, but be nurtured with care and affection, and see if they do not grow to something worthy of the notice of the good and the great.

If there be no vigorous resistance to this new professional atmosphere, I shall feel that I have mistaken the time necessary to full gestation in our body, and shall have to adjourn the case, as has often occurred to me in my actual practice in the obstetric field of labor, and still allow the embryon to retain its maternal connections, till the pulmonics shall have

attained the requisite perfection to fully act, and thus free the circulation from its placental tortuous windings, by embracing the pure atmosphere in which the uncontaminated life force awaits the opportunity to inflow and constitute the individual a true representative of all that consists in wholeness of being. But if I shall have the happiness to find at this, as at other communings, that some have come to full term, and only await the closing of the circuit to come fully into a vigorous and advanced life, I shall feel that the patient gathering up and aggregating of professional molecules shall not have proved a useless work, though it be the product of odd moments stolen from couch or office hours, at irregular intervals, through a long and arduous experience-which I would rather have heartily endorsed or vigorously rejected, as proof of the earnestness of those who have patience to hear, and thus afford an opening into which to insert the wedge of imparting the essentials that will certainly develop the truth of the matter, under the close scrutiny of sharp inquisition of direct questions and answers.

If propositions are not clear, it is certain that they are erroneous or misunderstood. Objections should not be ruled out, but allowed their full weight, so that enunciator or objector may be set right.

I ask pardon for the last digression—but you will please attribute it to my earnest impetuosity and almost mad desire that you all may see the truth at the same vista at which I have been so fortunate as to apprehend it. I am not willing to close until I have further detailed the phases of digestion, in order to present to the organs the pabulum proper for their support and refinement.

The digestion of air is the highest and purest direct method of imbibing life forces. Air is a calorifient food we must be supplied with at the shortest intervals; being so easily changed, we deprive it of the life in less time than other calorifients, that hold the life principle with more tenacity (the hydrocarbons for example.)

The digestion of the mouth is uncomplicated and fine—next in grade to inspiration of air—and takes up direct the entities set free by the death and disruption of the organism, capable of being instantly killed and dissolved by the oral fluids.

Digestion in stomach is a grade coarser, and requires a

longer time to perform the process.

Jejunal, illeal, colic and rectal digesting being grades lower still in the order enumerated, and capable of supplying the system in the exact ratio of the fineness and activity of the function.

Perfect digestion assimilates all, leaving no effete substance to be thrown off. Hence, the finest feeders and the closest digesters are of necessity freest from burdens of effete, offensive matters.

And by the way, that word effete is to the unfolded and illuminated understanding an epitome of all that can properly constitute the most complicated foods and their due preparation to effect the separation of vital and effete portions.

Effete—without living center—literally without embryon or fœtus, or without a quickened germ that can be taken out

and appropriated to our uses.

All effete portions of our ingesta must be rejected from our systems, or they will occupy to undue distension the receptacles of food, thus very materially interfering with the processes of nutrition. This is so in a moral, professional and bodily point of view; and I hope you will make the application to the whole range of the three, as time would fail us to go into the detail.

And now for the best methods to get rid of the effete matters we have been forced to take into our moral and professional, as well as bodily stomachs; we will do well to copy nature in the unperverted creatures, and imitate the owl and the deer, and reject these by an inversion of the peristaltic movements of the alimentary canal.

The owl swallows his prey, bird, mouse or other small animal, and after dissolving off all the soft parts, throws up the

skeleton upon an old log or stone, in a snug little pile of bones, the only part that is not assimilable, and thus avoids the rupture of his alimentary canal, consequent upon the attempt to pass them on through its tortuous and delicate windings.

The deer eats freely of the wild red plum, swallowing skin, pulp, pit and all, but when he comes to ruminating, he very wisely and quietly, as each cud brings up a pit or two with other matters, ejects them with the accuracy of an expert, comminuting and insalivating the balance, and passes it on to be disposed of in making a nice quality of real venison.

These facts I personally learned by my observations as naturalist when a mere boy, in the wilds of a new country, where neighbors were few and far between.

There are, however, many substances that are properly effete, that are not so readily and safely disposed of. Among them, not unfrequently, are to be found those denominated poisons. These may be present in our food, that announce themselves by destructive effects, the first notice we have of Again, slight chemical changes often render an otherwise proper aliment decidedly poisonous. The way best to get rid of them will in some degree be indicated by their character, to know which is of the first importance. Many, like the bones and plum pits, may be ejected by inverted action of the "prime" "viæ." But the only method of escaping the damaging presence of others, is, to hurry them through by increased activity of the main passages, thus by profluvia washing them away at the expense of a heavy draft on our nerve power and the pabulum we had hoped would strengthen us for further and higher activities in the specific field of our operations. Here, as elsewhere, we, alas! do not perceive the evil until it has made quite considerable progress,—the main reason of which is, that we sacrifice simplicity and safety to vanity and fashion, recklessly running the risk of a rapid or more lingering destruction, or a sort of compromise between health and death, and thus become invalids for the balance of our time.

I must say that we who are but invalids, morally and professionally, far exceed in numerical strength our pure, healthy, simple and successful brethren, who never took in falses from which they had to be purged.

And now how to attain this wholesome and efficient status as individuals and as a body is, to us, a question of the utmost moment to have clearly and positively solved.

This question of status is, like the cases we have presented to us to remedy, very complicated, and many times far gone on the road to destruction, which renders the matter doubly difficult to successfully treat; want of proper development and perversion standing equally in the way of true progress whenever present in the case to be dealt with.

To pursue the symbol of food—Undeveloped tastes or perverted tastes are no safe guide in the selection of proper, or even the most desirable aliments. Tastes so often conform to the conditions under which they are developed as to acquire specific modes, rather than generic ways of displaying their choice. And hence the necessity of "experimenting" even here at the very threshold of our individual existence.

The way to do this in the shortest time and to a sufficient extent is, to compare experiences of all with whom we come in communion. Here we are in danger of becoming 'perverted,' if we depart from our highest feeling of purity, simplicity and truthfulness, irrespective of the apparent delight with which certain tastes are advocated. Follow no lead that your inmost does not fully approve. But here let me say, some discernment is required; for often learners become confused, and call it (the confusion) faith in the leader, and so are led captive, until their confusion had subsided, taking away the false faith it had engendered, leaves them less fit for advancement than before the perversion. Do you ask, how, then, shall we become again fit to advance? I answer, by simply falling back upon first principles, and not blindly

move in the dark, again to find we had, instead of going forward, moved in a wrong direction, involving waste of time and energy.

Amusement will do to arrest attention or give relaxation to the overwrought organism which the mind works with.

The acquisition of money can only satisfy natures devoid of the moral perceptions, or those who have smothered these, by an arrant selfishness; for all true good is alike, and must, like knowledge, be distributed, to accomplish the highest results intended.

To accept demonstrations or statements not comprehended is a necessity to the novice—that they may prove stepping stones to the acquisition of real knowledge. But not to use them as such, renders us fossiliferous, and inevitably prevents expansion of power.

Whenever you think you have made an advance, be careful to communicate it, that it may be proved, and when proved, distributed to the world, that you may be free to work again, alone or associated.

Most of discovery, thus far, has been the work of isolation; but the advances most apparent are results of association.

Thus we work alone in the acquisition of single items of knowledge, and when we come together, each contributes the particular specimen he has come in possession of, and so we have in the aggregate a very fine cabinet that approximates completeness. In a fraction of the time we could each at home collect and correlate one apiece.

Now, if each member of this oldest dental society will but earnestly put himself to work, and follow the course of true living here indicated, we shall soon have the happiness to know that we are not only the oldest, but the most useful, because most advanced in the associations of our loved and honored professional body.

#### PROFESSIONAL SUCCESS.

BY A. S. TALBERT, D. D. S., LEXINGTON, KENTUCKY.

Read before the Kentucky State Dental Association.

Gentlemen of the Kentucky State Dental Association:—In the fulfillment of a duty imposed upon me at our last meeting, I present you a few thoughts on some of the elements of professional success. To insure success in any undertaking, the means must be adequate to the end to be attained. The adaptation of the means to the end, so as to accomplish the desired object may, then, be defined a success.

It is the common lot of man to labor, either mentally or physically for the supply of his natural wants. It is an essential element of his nature. It is a fundamental law of his being. It is the inevitable decree of God: "In the sweat of thy face thou shalt cat bread."

But his labors are not confined to the same narrow sphere. To him alone is given the capability of eternal progress. To him alone is given the power to profit by the past, or to anticipate the future. He alone is endowed with inventive genius. He alone subjects the elements to his will, and controls them to do his bidding.

Our eagle builds his eyry no higher nor perches himself more proudly on his mountain throne than did his fathers forty centuries before him. His ærial couch is made after the exact pattern as that of his illustrious ancestor's! Our lion's roar is not more terrible, nor the hind's foot more nimble, than when Daniel brooked the fierceness of the one, or when God inquired of Job if he knew the ways of the other. Our birds do now make the same toilette which they wore at their matineés in the days of St. Valentine. The sweet, and ever varied notes of the mocking-bird have lost none of their melody, nor has the owl added to his wisdom by the teaching of ages!

Man alone reasons-man alone thinks. He who thinks

with the most system, suiting the action to the thought, will, cæteris paribus, soonest attain to the object desired.

There is no excellence without labor, neither is there labor without reward. Even the smallest force brought to bear on any object an indefinite length of time will produce a definite result. There is perhaps no avocation to which these truths are more applicable than to the profession of Dentistry. Called into existence by the ills to which the teeth are subject, it undertakes to alleviate suffering—to arrest the progress of disease, and to supply a substitute for the lost member. To accomplish these three great objects, a versatility of talent and a firmness of purpose, coupled with correct judgment, are required: to which add a good moral character, and a thorough Dental education, and our student is qualified to assume the responsibilities of his profession.

It is now necessary to provide a suitable office in which to receive his patients, and to perform his operations. Three or four rooms will suffice for this purpose. These rooms should be well lighted and ventilated; -easy of access and neatly furnished; -the operating room being supplied with a washstand and its necessary appurtenances, -an operating chair and accompaniments—an instrument case and suitable instruments, in the skillful use of which it must be admitted lie the foundations of success. Ours is a tangible profession. The larger number of our operations exhibit for themselves the skill or the blunders of the operator. We can not hide our mistakes behind technicalities. We can not throw around them a woof to veil their deformities! We can not bury our dead! We have no magic wand that, with soothing enchantment, will conjure nature to restore a lost plug, or cement a broken tooth. We deal with solid realities. Nor can we shrink from the responsibility of any operation; for we can not operate by proxy. We live literally "from hand to mouth!" But while it is essentially true that the foundation of success lies in the excellence of the operation, that alone will not always insure success. We have to deal with delicate

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tissues, as well as "solid realities." Force should always be applied in a direct ratio to the strength of the resisting object. While a tooth must be plugged in accordance with this law, it must at the same time be done with the strictest possible regard to the comfort of the patient.

Let the lips and mouth be handled with the gentlest touch of clean fingers, and the operation be performed with clean, well burnished instruments. There is no part of our system so delicately organized as are our mouths. None, for which we have so scrupulous a regard to cleanliness. We may touch with impunity a loathsome object to any other part of our bodies, that would disgust and sicken us if applied to our mouths! That we meet with "bad mouths," no one will deny; but the continued neglect of cleanliness on the part of our patients does not offer any just pretext for a like neglect on our part.

I will give you an example to show you how little things may become important elements of success. A servant girl once called at my office to have me extract a tooth. I seated her in the chair, and, having washed my hands as I always do before going to my patient, I performed the operation. A few months after, her mistress called on me, and, paying a handsome fee for professional services, she became ever after while she lived, my steadfast friend. She told me she came at the instance of her servant, who said she "never before saw a white man wash his hands to wait on a nigger!" Thus a simple act of kindness (for it was nothing more—my hands being as clean as her mouth,) shown even to a slave was a hundred fold rewarded, adding more to the success of the operation than any superior skill could possibly have done.

As material substances depend on an aggregation of many homogeneous particles, so success depends on many things, apparently little in themselves, yet each of momentous importance to the formation of a perfect whole. Little courtesies often give to men of inferior minds an influence and a business that are denied to their superiors. They are especi-

ally fitting to our profession; many of our patients do not come to us till they are driven by the severest necessity. Their system being unnerved by pains and loss of sleep, they are unable to demean themselves with their wonted composure. Kindness will give them confidence—confidence in you, confidence in themselves. It will inspire in them respect for you, and they will bear their pains with becoming resignation. Having properly completed your operation, it is a success,your association with your patient is a success. You have fulfilled a professional duty, -you have gained a friend. Nor is kindness alone an element of success; it must be accompanied with dignity, candor and honesty. No tricks of legerdemain are to be practiced, nor are very intimate social relations required; from a few minutes to as many hours will suffice for the exercise of these relations. Our offices are not a fit place for social intercourse, they are for business. While in them we are to treat all with the same respectful consideration during the time required for professional services. But it is not our duty to offer inducements to any to remain longer. Do not therefore urge them to stay, -- you do not know at what moment a patient may call whom you would prefer to meet alone: you do not want either to hear the other's complaints or commendations. Have you not had Mr. A-, whom you have not seen for three years, come in just as you were making an engagement with Miss B----, and say in her presence, "Doctor, one of the plugs you put in for me last year, came out a few days ago, when in fact it had never been filled by any one; or, perchance had been filled many years before by some other Dentist!

Miss B—— in the meantime has left with an unfavorable impression, strengthened it may be by some casual remark of some admirer of your neighbor dentist, and possibly you see nothing more of her!—for our patients do not always fulfill their engagements. But this fact does not afford any pretext for the neglect of our engagements.

Punctuality is a jewel in the crown of our success. We

must not trifle with our engagements, nor allow either pleasure or business to break them with impunity. We are the servants of the sovereign people, they fully recognize the relationship. They may break their engagements for some trivial pretence, once, twice, or three times, but we must not break ours on the fourth time; no, no, we belong to them! Our only redress is to come and go, or rather always stay in our offices, to do their bidding; but we may see to it that it is done at their expense! This reminds us of another important element of success, to-wit: properly regulated professional fees,—they should be just and equitable in view of the services rendered, the ability of the patient, and our general professional responsibilities. We can not always estimate our services by the amount of time, or the quantity of material used.

It is often necessary to fill a tooth which we know can not long be of service, but to do which it may require more material and labor than to fill another which will be good during the life of our patient. It would be unjust to charge more for the first than the second, because it is intrinsically of less value, and yet we may charge a fair compensation for any operation competent to be performed, and that is as well done as may be under the circumstances. So too, in many of our minor operations,-little in themselves, they seem to us hardly worth charging for. But it must be remembered, that what seems to us little, and very easily accomplished, is rendered so only by familiarity; for when a thing is thoroughly learned, it seems very easy to know it! and we often wonder we had been so stupid as not to have learned it sooner! If then our benevolence incline us to charge nothing for what appears to us a trifling operation, it is well to remember our superior knowledge and skill have been attained by study and experience, for which we are justly entitled to fair compensation. But it is our province to use a prudent discretion in making our charges; all are not equally able to pay the same prices. The poor, as well as the rich, require

our services,—the little they are able to pay is even more to them, than the much paid by the wealthier classes is to them; hence they are entitled to equally good and permanent operations; indeed, to better if possible, as they are less able to pay for their repetition. We should have no "cheap Dentistry" at "cheap prices," but good Dentistry at low prices, in all cases where our patients are not able to pay remunerative prices.

Much of success depends upon the manner of our operating; it is not to be done hurriedly, nor are we to wear out our patients by too long sittings. Again, there are those for whom it is well to operate when you have the opportunity! A correct discrimination as to the time is equally as important as the manner of operating. "There is a time for every thing under the sun." Have your instruments in proper order before your patient sits in the chair, that the sharpening may not grate harshly on his ears, or the cleansing be associated with their previous use. Listen to your patient's wishes; have respect to them, but consult your own interest and that of your profession first, both of which being combined are paramount to his. If his teeth are to be filled, he will say to you, "fix the worst ones first!" Are you to do it? By no means! A little placebo may be necessary; a little camphor and cotton; make the application, and by the time you have filled the smaller cavities, your camphor will have done wonders! But how? Not so much in its having "toughened the inflamed dentine," as in your having obtained the confidence of your patient and in his better control of his nerves, by which he will better bear the operation, and so afford you an opportunity to complete it in the best possible manner; whereas, if you had commenced with the "worst ones," your patient's courage might have failed him by the time they were completed. Do not then begin with "the worst," for by so doing you take all the risks, - among which may be mentioned the larger quantity of material requiredthe more time consumed, and the greater liability of the teeth

to furnish cause for complaint by their aching, or sensibility to changes in the temperature of the food and drinks.

Let the same rule be observed in the extraction of a number of teeth, commencing with the one most easily drawn, and you will thereby inspire confidence and give courage.

Thus, gentlemen, I have rapidly glanced at some of the elements of success.

I thank you for your kind attention, regretting I have not been able better to entertain you.

#### DIAGNOSIS.

(Read before the Mississippi Valley Dental Association, Feb. 20, 1861.)

BY DR. W. H. ATKINSON.

DIAGNOSIS, from the Greek words Δια, through, and γινωσχω, to know. Hence, to see through a case to demonstrative perception of the physical condition present.

One may be accurately acquainted with the exact sciences to the full limit of chemical equivalents and the mutations of numbers, and able correctly to reply to all interrogatories touching anatomy and known physiology and the true theories of pathology, so far as they can be taught by books or words, without specific actual cases to "seal the instruction," and yet be unable to diagnose the simplest case of disease presented in actual practice; simply because the knowledge has not become his own by the certain illumination of perceptive unfoldment enabling him to comprehend appearances.

Answers to set questions, although correctly rendered, is no evidence that such answers are anything more than the mere parrotting of a sharp memory of words, which, alas! is but too often the method pursued in examinations of pupils in nearly all schools of learning, literary as well as professional; each teacher or professor being more careful to obtain replies in set forms memorised than even better replies in the pupil's own language, which should be preferred, being so much better test of advancement.

To be in earnest in our instruction to pupil or patient, or those in the charge of those upon whom we are to exercise our skill, though a prime necessity of doing all the good we can, is by no means the end of our duty as teacher or adviser.

As teacher, our examinations of pupils should be varied and searching in each point, until we are sure he does comprehend and make the knowledge his own.

As adviser, at the risk even of seeming tedious or over careful, we should require them to rehearse h w they understand our instructions, which will always show us that if we had not made this repetition, some points of importance would have escaped them, and thus laid the foundation of failure to fulfill requirements on their part, to the detriment of the cause and our reputation.

Diagnosis, to be useful, must not only be clear and satisfactory to our own minds, but made so plain to those in charge of the case as to make them alive to the real necessities present; thus securing that cooperation, without which all our cases will be retarded, if not rendered altogether nugatory, or a real damage to those we had essayed to benefit.

Instructions, ever so minutely given and earnestly enforced, are less efficient for good than when unaccompanied with a clear and philosophical, yet plain statement of the reasons upon which they rest.

I am fully aware that this sort of earnest mode of practice is no less a novelty than the other more laborious methods of performing faithful works.

Easy and superficial methods of investigation are not the most successful roads to certainty of diagnostic competence.

No competent diagnoser will set up his authority as the standard, but will always rely upon the perception of those to whom he wishes to make it clear, and in this very democracy (of the most elevated power in reach of the professional man) is there safety, for this very recapitulation of the case may illuminate either his own or the perception of those to whom delineating upon points that had before escaped notice,

thus securing certainty in his own mind and the confidence of the other.

It may be asked, who will be the best diagnoser? The answer is very short in its wholeness, and is,—he who knows most.

If, then, the correctness of practice be proportioned to the accuracy of diagnosis, what shall we say of the profession as it now stands? Ans. That it is now doing a great deal of work that will at once become unnecessary and obsolete the moment this one requirement of correct diagnosis becomes more common among us.

Many, very much too many, in the "practice," I will not say "profession," are making more work than they are aware of, for want of this power among men who are trying to be honest and live up to the light they have.

One principal reason for this dearth of diagnostic ability had its origin in capable operators employing men to do work in the laboratory for them, by working to models made from the impressions taken by their own hands. After a time, it becomes necessary on some occasions to have this "workman" insert the piece thus made in the mouth of the patient—a few repetitions of which inflated him into a perfect dentist in his own imagination; and upon the slightest pretence, or without assigning reasons at all, he at once moves across the street, and comes out as the man to whom you owe your good name as a dentist, and now informs the people that he will do the same sort of services at very reduced rates

By these, and such as these, we have had the field of practice completely filled with (some) honest, ignorant geniuses, who undertake to do alike the doable and the undoable feats of professional skill, in cards that completely exhaust all the living and dead languages, in search of superlatives, and then fail to half lay open to the people their marvelous ability.

It was really marvelous to them and their immediate acquaintances how it was possible for them in so short a time to have attained such eminence. They were astonished at

their wonderful productions as really as the boy ever was upon his first successful attempt to construct a whistle in the season when "the bark peeled." And if they knowing these things to be so, were true taken by surprise in finding their cup of mental appreciation full, why, of course, they must needs, like all who have drank but shallow draughts, te intoxicated and run over in mercy to bless a perishing world, as all quacks ever do really in their littleness suppose themselves capable of doing, and in their honesty in telling the world so, expose themselves to be but in their babyhood, which by no means ranks them with the smallest class of grown human beings, so far as bodily proportions go.

And lest we seem too severe on these, let us saddle the right horse, and say at once, those members of the profession are held to answer, who, for favoritism or enormous pupilage fee, have put these Yankee geniuses, possessed of real valuable handicraft, into the profession, telling them, after a four weeks' pupilage, that now they might go and seek their fortunes, for they were much better qualified than they were when they first commenced to do a fine business, if they do not actually give them certificates, as I know some have, stating their competency to be quite equal to the signers as to skill and integrity.

Now, here we have our hands full of good material to make first class dentists of, but they would be insulted if we were to approach them and frankly state to them the patent truth. They are so sure that they know all that is worth knowing, that they can not discern the difference between a well and skillfully made piece in the very height of art, and a piece put up a la Tinman's solder, and maintain positively, in the presence of their betters, that the latter was just as good as the former specimen.

Now, they must first be convicted of their need of being saved from their error, and then what a rush we should see to the portals of our dental Colleges, flocking literally as doves to their windows. If such a movement could be made

within a year or two, the impetus that the profession would gain thereby would forever settle the question of respectability as to talent in the various professions; for, to my certain knowledge, there is no body of men, possessed of so much energy, quick perception, mental capacity, physical endurance, manual dexterity, versatility, nonchalance, want of science, and in pudent egotism, almost hopelessly mixed up, as that body of men engaged in operating upon the teeth in one form or another, all of course claiming to be at least respectably enabled to perform any operation they may be called upon for, or get it done as well as it can be done by the best. "Eternal vigilance" here, as in government, proving "the price of liberty."

And now that excess of liberty has dawned upon all, it becomes those capable, to so regulate it that it proves not destructive. Fire burns equally when inserted in its flame the finger of the innocent and of the hardened offender. So here, also, the good and the erudite are made to suffer and bear a load put upon them by the bad and ignorant, whether they have been "particeps criminis" in precipitating this state of things or not.

No doubt we have among us many who are now, through long and severe experiences, quite as competent, after having learned, to the cost of their consciences and the well-being of many an innocent victim, how not only to diagnose, but perform a useful service, as those who now honor the profession, without having passed the hells of mal-practice, to arrive at the heaven of "sweet capability" by coming into the profession through the door of a proper education in its schools.

But as it is not every one who says "Lord, Lord, that shall enter into the kingdom," so it is not every one who sports a genuine sheepskin, conferring D. D. S. or M. D., or both combined, that is thus honoring the profession and noble human nature by their practices.

Is it at all questionable whether this ability alone, in its wholeness, would not absolutely annihilate the word fail from our practices?

To my apprehension, complete diagnostic power in faithful exercise would point the certain way to annihilate first one and then another and another abberration from the standard of health, until by the inductive suggestions attained through it, there would be no discordant molecule left to set up the catalysis of disintegrative force.

It is pertinent to ask whether the diagnostic exercise of the mind be a natural gift, or if it is capable of being taught? To which I would reply, that 'all we have we did assuredly receive;" but if we only keep it in the state in which we received it, there would not be enough in possession of the power to establish a rule to govern us. And, therefore, like our other powers, it must be cultivated, to give us a useful control over it. Like the fire, a wild electricity in the circumambient air, being actively and positively there, but until it has been set in motion by the proper means, and concentrated in the helix or the Leyden jar, it is not in our power to give it direction by our will. But the instant it is so harnessed and brought into harmonious relation with our mental centers by the various means of condacting the current, we may discharge the battery or jar by gentle, unseen induction, by visible sparks, or in one grand, terrific explosion, just as the captice of the will may dictate.

So every item of knowledge the professional mind has stored away in its Leyden jar serves to intensify any particular mental effort, worthy of the name of effort, in the inductive, spark-like, or explosive form. (I suppose this might explain the immoderate disgust and indignation professional men formerly manifested when any one dared to express a doubt of their skill or integrity—they were so charged with this science motor, as to explode when promptly brought in contact with a powerful conductor, suddenly closing the circuit upon their central battery, self-love.)

The various precious odors owe their value to the capability of being volatilized and scattered when wished to be put to service, and then all within the sphere of influence appreciate

and enjoy them. But that they may be transported from place to place for our pleasure or profit, they must be "sealed" tightly, and deprived of the liberty to escape. In like manner, all instruction must be "sealed" also, to enable the mind to retain and transport it for pleasure or profit. Now, this sealing of instruction is but the closing of the circuit of complete demonstrative teaching by nature or competent leaders in the departments of science.

He who is most nearly harmonised by an equal unfoldment of mental powers in the various departments of his mind will be in possession of most knowledge, and have it also best at command.

Those fragments of education incongruously conjoined, that stand out in angularity, and repel us by their very sharpness, may indicate strength, but are not usefully harmonised until after transposition and retransposition, to train their angles into graceful curves, out of which eventually to produce the beautiful lines that undulate into spherity, the type of complete harmony.

Those best versed in the deeper sciences are usually not the most disposed to communicate freely to others, and often find themselves excluded by self-isolation from what is going on in the new fields of investigation and experiment by their earnestness to confirm or explode the doctrine of their predecessors; whereas, if they would only open themselves to let others partake of their labors, even at the risk of being snubbed by their inferiors, they would soon prove that it is "more blessed to give than to receive," and become possessed of the fresh means of advancement, stript of the worn out nomenclature of the former time.

In our profession especially, do we all need to be "students" all our days, and freely discard our most cherished opinions and beliefs, for clear demonstrations of actual knowledge, irrespective of the source from whence it comes.

Lapse of time spent in any calling does not alone confer superiority in execution of its proper function. Neither does

long blundering in our specialty of surgery confer the ability to diagnose well. No doubt many a very young member of it may put to shame the veterans, in years, by his superior insight into cases. But other things being equal, length of experience, or in other words, volume of practice and variety does confer this coveted superiority—so that it is not to be expected of beginners to have great, or even considerable skill in examining cases. This, if true, would dictate the propriety, not to say necessity of leaving the eye of long experience, if possible, in every office where patients apply for advice or operations.

The people have heretofore known so little of what it was reasonable to expect and require at the hand of the operator that any one with liberal address could get any amount of work—but, alas! it took the competent dentist to keep it, as soon as they had been instructed by the failures that taught both operator and patient that they had been on the wrong path.

Such an amount of intelligence is now extant, that but a short time comparatively will elapse until the people will demand better preparation for the responsible exercise of our humane calling.

The ground properly embraced in the physical structure and diagnosis of human teeth in health and disease has so recently been turned up to the sunlight of scientific observation and cultivation, that it has of necessity given an impetus to collateral science that they will soon have to acknowledge, which, however, we should care less for than to know that it has thus furthered their interests. Surgery and chemistry in particular have been thus benefitted by the researches of Dentistry. How shall the tyro best employ his time to attain the one prime necessity of a successful career in practice?

Not in the examination of cases he never can see again, or more than a limited number of times at irregular periods. Not in hasty, crowded private practice, where no time nor ability, if the patient consented, were allowed to fully delin-

eate the nice distinctions of the various stages of disease in the diverse structures presented. But in such cases as, in whosesoever hands, can be seen from inception to termination, of which the pupil takes sketches and notes in his own language, and reads and discusses in the presence of some one able and willing to "point" and "seal" the wholesome instruction to his enlargement, so that he have the type of one class of cases from which he need never to depart. Next, a case nearly allied to this, but with marked modification of temperament, sex, nationality, or other molecular difference, from whatever cause.

And so on through all the modifying circumstances of the entire routine of oral diseases and aberrations from the perfectly healthy standard. If such a course of diagnostic instruction were faithfully followed, we would soon be made aware of the increased ability of our profession in this very important particular, and our pupils would return to their former tutors to turn the tables upon them, and prove to them that if they were younger in years, that they were their seniors in useful ability to see through the various cases daily presented.

To be a good diagnoser it is imperative to understand principles and laws in preference to formularies and modes. And to be able to comprehend these, native powers must not only be good, but kept in action by continued application, thus ensuring the healthy growth so much needed to make their "vigilance" the watch of "intelligence," that strikes down none but foes in the dark or in the light.

That the greatest impetus may be given to diagnostic power, it behooves those who have attained this high ability to so clearly point the way to inquirers, that they may begin where we leave off, which can not be done unless we relate our failures in opposition to our successes, to constitute the sure basis of demonstrative teaching that shall be able to convince the most rigid hair splitter that we meet, by the diffusion of all we know for the good it may do.

## WHO ARE DENSISTS ?-No 3.

BY WM. A. PEASE.

THE question will frequently arise in the mind of persons about getting a set of artificial teeth, "which of the various methods by which they are inserted, and which of the different materials on which they can be mounted as a base will be the best, the most comfortable, durable and natural; and which will prove the most satisfactory?" As such persons wish to act intelligently, and as it is frequently with them a subject of consideration and consultation with their friends as well as with dentists, it is proposed in this article to state clearly and briefly the advantages and disadvantages of the different methods of inserting artificial teeth, and the comparative value of the different materi ls or bases upon which they are mounted. It should be borne in mind, however, that the estimate here given is not absolute, but relative; it applies to the general run of cases, and is he rule to which it will be the safest to adhere; although there may be exceptions requiring different methods or other materials; but, if they occur, they will be of such a nature that, when explained, they will be easily understood by the person, who will see from the shape or condition of the mouth the reason and necessity of the departure from the usual method or material. At this time it is believed that such a statement will furnish valuable data to two classes of persons, viz: those who have lost their teeth, and those whose teeth are decayed, and who are balancing in their mind the propriety of having them plugged, or of allowing them to decay and break off with the view of getting artificial ones.

To fully understand the reason why different operators employ different methods of inserting artificial teeth, and why there are so many different and widely dissimilar materials used as a base for that purpose, a few preliminary remarks will be necessary.

The country is now full of dental mechanics; and the facility with which they are manufactured in the laboratory. and the mistaken idea that dentistry affords lucrative employment is fast increasing the number. Men are wanted in all the principal offices in the country to do the office drudgery and to make artificial sets of teeth. Hence, apprentices are taken who, after serving their time, are dismissed or employed at mechanics' wages; they are not called dentists by the profession. These men are often ambitious; having seen some operations in the mouth while in the office; having no professional reputation at stake or character to lose, they boldly assume to be dentists and boldly essay to perform all operations at the chair as well as to make mechanical work. Conscious of their inability to operate as well as dentists, and satisfied with mechanics' wages, they endeavor to gain business by all the tricks and arts of trade, and by placing the price of their work so low, that no dentist can compete with them and do justice to his patients, maintain his character as an honest man, or his position in the profession. Notwithstanding all these advantages they know that they can not long sustain themselves in competition with dentists by these means alone; they must resort to other means and other devices to engage the public attention and divert it from their unsuccessful operations. Hence they eagerly seize upon every new material, instrument, device or mode of practice, however unpromising it may be, and thrust it upon the public attention, until it has had its run, its worthlessness is discovered, and the public are disgusted with them and with dentistry in general.

Thus it will be seen that but for them many of these materials and modes of practice would have been little known outside of a few dental offices, where they would quietly have been subjected to the severest tests of experiment and experience until their worthlessness was discovered. The confidence of the public would not then have been abused, dentists would not have suffered from the mortifying failures, and the

public would have been better served. And here I will remark the public should view with distrust all new materials and improvements unless sanctioned by men of known probity and character, and even then people had better not lightly depart from the proved methods and materials, as the best of dentists may be mistaken.

The methods by which artificial teeth are now inserted upon metallic or other bases are two, viz.: either by springs or clasps, or atmospheric pressure. Those attached to the natural teeth by means of clasps are partial sets consisting of a variable number of teeth, and they are attached in this way for various reasons, the principal of which are: first, price; they can be inserted cheaper by clasps than by atmospheric pressure. Second, the peculiar shape of the mouth, or the peculiar way in which the teeth of the upper and under jaw strike or come together, which sometimes make a partial set by suction impracticable. When a set of teeth is inserted by clasps, the plate covers much less of the roof of the mouth. than it does by atmospheric pressure, and it is generally firmer and more serviceable in eating; but there is a serious objection to it, as it causes a rapid decay of the natural teeth to which the set is attached.

While in some mouths the teeth are so healthy that they can withstand almost any kind of abuse, in others they are so unhealthy that they can be preserved with the greatest difficulty. Unfortunately it is the latter class that generally require artificial teeth; and it is found by experience that the teeth, to which the clasps are attached, will generally require to be plugged in from one to two years after the set has been inserted; and they will frequently break off in one or two years more, so that after four or five years the person has not only lost the artificial teeth, but also two of the best natural ones. This may be considered an average in young persons, for while some sets are lost in a much shorter time, others will be more durable. On the contrary, a suction set

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does not injure the natural teeth, and if it consists of several teeth and they are continuous, if the remaining natural teeth are ultimately lost, its adaptation or value is not materially lessened. But it should be borne in mind that it is a greater incumbrance to the mouth, and generally it is not as useful in masticating the food. These are the practical advantages and disadvantages of the two methods of inserting artificial teeth.

Coming now to the different materials which can be used for a base for artificial teeth; they will be found to be divided between the mineral and vegetable kingdoms. In the mineral they are gold, silver and platina. In the vegetable they are the gums of the gutta percha and India rubber trees. It is not surprising that a metal so beautiful as gold, so incorruptible and plastic, and one, withal, of so great intrinsic value should be considered almost instinctively by the profession and the community as one eminently suitable to be a base for artificial teeth. Alloyed and adulterated as it often has been until it was sometimes difficult to determine whether it predominated over a mixture of silver and copper; it has, nevertheless, maintained its position in the professional and popular estimation; and it is believed that single gum-teeth well mounted upon good gold plate make the best practical artificial denture that has yet been devised. The reason of this is obvious; there is no metal so good as gold, and none, like it, have stood the test of time and experience; and there is none that can be used for partial sets, that harmonize so well and produce so little galvanic disturbance when brought into contact with plugs in the natural teeth. Passing over silver which is chiefly valuable for temporary purposes, we come next to platina, a metal that has come into use within the last ten years as a base for enameled or continuous gum work, (so called because the gum is fused into one piece,) and it is only used for that purpose, because it is the only metal fit to remain in the mouth, that does not melt at a less heat than the enamel that is to be fused upon it to form the gum.

question will then arise, what are the advantages and disadvantages of a set of teeth made with continuous gum over one made in the ordinary manner on gold plate? We answer the only advantage (which is of some moment,) consists in melting the enamel between and around the teeth so as to leave no space for the accumulation of food; and in some few instances, of building out beyond the plate, so as to give the mouth and cheeks a little more fullness. Having stated all of the advantages of continuous gum work over ordinary sets of teeth on gold, let us see if there are any disadvantages which neutralize them and make it less desirable as a whole; for the public have a right to know if such there are. All suction sets of teeth are held in their place by traction upon the roof of the mouth. In other words, the air is drawn from between the plate and the gum, or mucous membrane of the roof of the mouth, when this pliable membrane closes around the edges and draws into the chamber of the plate to prevent the air from re-entering. Thus it will be seen that the weight of the set of teeth and the pressure upon it during mastication have to be sustained by the tender mucous membrane of the roof of the mouth; and is to that extent, a constant and unnatural tax upon it during life. Hence, the lighter the material the less is the strain or tax, and the greater must be the force during mastication to overcome the adaptibility of the mucous membrane to the plate and loosen the set; and hence, that material which has strength with the least bulk, which is cleanly, inoffensive, and has nothing incompatible with the health or well-being of the mouth. is the best adapted for dental purposes, and should always be used. Platina has not these qualities to so great an extent as gold. It is a heavier and softer metal than that quality of gold used to make artificial dentures; and hence, to get the necessary strength it must be used thicker than gold; or else, the plate must be strengthened by bands or stays, and by the time the enamel is fused upon it, the set is thicker, more clumsy and heavier than a set of teeth of equal strength

mounted upon gold. Nor are these the only objections to platina as a base for artificial teeth. One of the chief duties of a dentist in constructing an artificial denture is to provide for repair. This is too much lost sight of by the profession, and is almost wholly overlooked by the public, who seem to think that, having obtained a set of teeth, it will last through good and bad usage for life; whereas, nothing is more fallacious, and nothing tends so much to make them neglect the natural teeth.

A set of artificial teeth is a piece of mechanism—nothing more. It is made of light, frail and fracturable materials, and it is believed that the average duration of sets of artificial teeth will not exceed six years, while many of them are a constant source of trouble and expense from the first. From the nature of the case, a set of teeth made to fit a changeable base must be perishable. The human mouth is constantly undergoing changes; small it is true, but appreciable, when measured by an unchangeable set of teeth. Hence, a set of teeth not entirely inelastic, one that will spring and accommodate itself a little to the changes of the mouth, will be the most comfortable and durable, and fulfill more of the requirements of a good denture than one of greater rigidity. These qualities are possessed by gold and silver, but they are not possessed by continuous gum or enameled work; for, the enamel being vitrous, or like glass, is inflexible, and if the platina base springs, however little, the body or enamel checks, cracks or flakes off. Hence, a set of this kind is more liable to accident from a fall or a change in the shape of the mouth, and if there is any warpage, or the set bends, it can not be restored to the original form, like those on gold or silver.

Another important element of value of all mechanical work is universality of manufacture. A piece of mechanism, however valuable it may be, loses much of its value if the means of repair are not always at hand, in case of an accident. Few would carry watches if they had to send them fifty or one hundred miles for repairs; and watches are less liable to acci-

dents than artificial teeth. Hence, it follows that that kind of artificial teeth that can be made, and easily and cheaply repaired by all dentists, not only of a particular locality, but by all dentists of the country, are the safest, and therefore the most desirable and valuable. Such are those mounted on gold and silver; such are not those mounted on other materials, as they require a peculiar apparatus for their construction and repair, not used for other materials. Besides, all dentists know that persons when abroad are frequently subject to expense and serious inconvenience from some accident to their teeth, which they can not get repaired where they are, because they were made in an unusual manner; and that at home they are liable to the same inconvenience, from the death or removal of their dentist. Thus it will be seen that a set of teeth on a platina base is valuable for cleanliness, and occasionally for other purposes, but that it is undesirable from its weight, clumsiness, greater tax on the roof of the mouth, and also, from its liability to accidents not easily repaired.

(To be continued.)

# Proceedings of Societies.

## KENTUCKY STATE DENTAL ASSOCIATION.

TUESDAY, April 9, 1861.

THE Kentucky State Dental Association met pursuant to adjournment, at the Masonic Temple, at  $10\frac{1}{2}$  o'clock, A. M.

The morning session was spent in general discussion, when the association adjourned until  $2\frac{1}{2}$  o'clock, P. M.

The association met according to adjournment.

The proceedings of the morning session were read and approved.

The President called for reports of committees. The Executive and Examining Committees reported their duties performed, which reports were received and approved.

The Examining Committee reported the following gentle-

men as applicants for membership, viz:

Drs. J. W. Baxter, Warsaw, Ky.; T. G. Lockerman, Louisville, Ky.; Geo. S. Jones, Russelville, Ky.; H. Baldwin, Elizabethtown, Ky.; H. S. Sanders, Lebanon, Ky.; A. L. Dwyer, B. A. Pierson, W. G. Redman, E. L. Green, Sam'l. Griffith, Louisville, Ky.; James L. Nourse, Cloverport, Ky.

A vote was then taken, and each applicant declared duly elected, after which they signed the constitution.

The Treasurer then made his report, which was received, and ordered to be placed on file.

### TREASURER'S REPORT.

1861.—A	pril 9th		
Expens	e incurr	ed for printing\$ 6 75	\$56 <b>95</b>
66	""	for paper and pens 90	<b>407 65</b>
	· ·	for rent of hall in Masonic Temple 20 00—  Balance in Treasury	\$29 30

On motion of Dr. A. S. Talbert,

Resolved, That the medical profession of Louisville are hereby cordially invited to attend the sittings of this association.

The association then proceeded to the election of officers for the ensuing year. The President appointed Drs. Baldwin and Lockerman tellers. After balloting, the following officers were declared elected, viz:

W. D. Stone, President.

R. PECKOVER, Vice-President.

A. L. DWYER, Secretary.

J. A. M'CLELLAND, Treasurer.

Executive Committee.—Sam'l. Griffith, H. Baldwin, T. G. Lockerman.

Examining Committee.—J. W. Baxter, W. G. Redman, Stoddard Driggs.

On motion of A. L. Dwyer, it was

Resolved, That we extend an invitation to all dentists, members of other societies, and to the dentists of this State, who may wish to become members of our association, to be present, and participate in the discussions.

On motion, a vote of thanks was returned Messrs. DuPont, for tickets and an invitation to visit the Artesian well.

Adjourned to meet at  $7\frac{1}{2}$ , P. M.

#### EVENING SESSION.

Association met pursuant to adjournment, and was called to order by the Chair.

Dr. Talbert then read an essay-subject, Professional success. Dr. Rogers also read a paper—subject, Filling decayed teeth. Dr. M'Clelland read an essay—subject, Extraction of teeth. At close of which, on motion of Dr. S. Griffith,

Adjourned till 9 o'clock, A. M. to-morrow.

#### MORNING SESSION.

Met at  $9\frac{1}{2}$  o'clock, A. M. On motion, a vote of thanks was returned those gentlemen for essays read last night.

On motion, the essays were referred to the Executive Committee.

The Examining Committee then recommended the following gentlemen for membership, who were unanimously elected, viz: Drs. Edwd. Griffith, C. E. Dunn, G. B. Fitz and R. H. Wilson.

The President then announced that each gentleman would be limited to ten minutes, and not be allowed to speak the second time without the permission of the association. The President then announced the subject for discussion—Treatment of temporary teeth. This occupied the time to  $12\frac{1}{2}$ , P. M., when, on motion, adjourned to meet at 2 o'clock, P. M

#### AFTERNOON SESSION.

Met pursuant to adjournment. Discussion of treatment of temporary teeth continued. At 5, P. M., took up the next question in order, viz: Filling teeth.

Adjourned to meet at  $7\frac{1}{2}$ , P. M.

#### EVENING SESSION.

Met at 8 o'clock, P. M. Discussion of the subject of filling teeth continued. After close of discussion, the meeting went into an irregular discussion on the causes of discoloration of teeth. On motion, adjourned to 9, A. M., to-morrow.

#### THURSDAY-MORNING SESSION.

Association met pursuant to adjournment, and opened with prayer by Dr. Sam'l. Griffith, when the meeting proceeded to the discussion of the subject of extracting teeth, at the close of which the President announced a recess of ten minutes, for the purpose of examining specimens of malformed teeth; also to examine instruments exhibited by Dr. J. T. Toland, of Cincinnati, O.

The meeting was then called to order, and proceeded to ballot for our next place of meeting. On counting votes, Louisville was declared the place selected. The President then tendered, on behalf of Silas Miller, Esq., proprietor of the Galt House, a room in that building for our use at our next meeting, which, on motion, was accepted.

The President then appointed the following gentlemen as delegates to the American Convention, to be held at Cleveland, Ohio, the last Tuesday in July next, viz: Drs. W. G. Redman, B. A. Pierson, Stoddard Driggs, and H. Baldwin. On motion, Dr. Talbert took the chair, and appointed Dr. W. D. Stone as one of the delegates.

The meeting then proceeded to discuss the subject of tobacco—its effects upon the health of the mouth. After the discussion, on motion, adjourned to meet at 2'clock, P. M.

#### EVENING SESSION.

Met pursuant to adjournment, at  $2\frac{1}{2}$  o'clock, P. M, and proceeded to discuss the subject of "Artificial Dentures," after which, on motion, the President appointed Drs. M'Clelland, Pierson and E. Griffith as a committee to draw up and present to this association a resolution or by-law, for the better protection of this society against objectionable persons, which committee reported as follows:

Resolved, That dentists, not members of this association, to be admitted to its discussions, must be introduced by one of its members, and that no one who has been in the study and practice of dentistry less than two years be admitted, except such person be a student of one of the members of this society. Adopted.

On motion, the society went into discussion on Miscellaneous Subjects.

The President appointed as essayists for our next meeting Drs. Nourse, Baxter and Lockerman.

A vote of thanks was returned B. M. Patten, Esq., Director of the Kentucky Institute for the education of the Blind, for his kind invitation to visit that Institution. A vote of thanks was also given to Dr. J. T. Toland for his kindness in acting as reporter of this association. Also, a vote of thanks to our worthy President, Dr. W. D. Stone, for the able manner in which he had conducted the sittings. On motion, a vote of thanks was returned Dr. Goldsmith for the tender of the hall of the Kentucky School of Medicine for our use.

The Minutes were read and approved.

Prayer was then made by Dr. Sam'l. Griffith, and, on motion, the association adjourned to meet in this city the second Tuesday in April, 1862, at the Galt House.

A. L. DWYER, Sec'y.

## Selections.

DEATH FROM ANÆSTHESIA.—POST-MORTEM INDICATIONS.—Lecture VI, Tuesday, June 5, 1860.—After a few allusions to the subjects of his last lecture, the Lecturer passed to describe those symptoms which denote a fatal result during the administration of chloroform. These may be divided into

two distinct heads, viz., syncope and coma.

Death from coma very seldom takes place, not more than about twelve persons have died from this class of death. The symptoms of coma are apoplectic in their nature. There is very little reason to doubt but that the whole of those persons who have died in the comatose state had preëxistent disease of the kidneys. In disease of either liver or kidneys, we should be especially careful in the administration of chloroform.

In death by syncope under chloroform, the event takes place suddenly, sometimes within the first eight or ten inspirations: in one case, that occurred at St. George's Hospital, the patient is said to have died on taking the first sniff of the chloroform. Dr. Richardson is of opinion that in the last mentioned case the patient did not die from the effects of the chloroform, but from fright. He noticed cases of patients dying on the operating table from fright before they were touched with the knife, long before chloroform was known.

Death in this acute mode generally occurs at about the end of the first degree; and a very curious circumstance connected with it is, that up to the last moment there is no indication of a fatal result. The patient seems to be progressing favorably; there is no difficulty in the breathing, and the very best and purest chloroform may be in use; suddenly there is a call that the pulse has stopped—it has not gradually slacked or fluttered, but it has stopped at once and abruptly under the finger—and if it does not commence pulsating within from five to ten seconds, there is little chance of saving the patient's life. The cause of this stoppage of the pulse is, of course, owing to paralysis of the heart; but here, again, is a circumstance to be noted—it is the right (or venous) side of the heart that becomes paralysed primarily, and not the left

(or arterial). The right side being paralysed, the blood is prevented from passing to the left side of the heart; the left ventricle contracts and expels the blood contained in it through the arterial system, but finding no further blood to contract upon, the arteries come to a full stop, and death is the result; for, according to the law of hydrostatics, a double column of blood (one arterial and one venous) is required in constant circulation for the maintenance of life. pulse has stopped, the patient often gives a shudder and is convulsed (the same convulsive action occurs in animals when bled to death), and sometimes the respiratory organs make a few efforts to continue their functions; but so sudden is life stopped, that it is as if the great aorta were tied, and the blood prevented from making its circulation. The lips turn of a pallid color before death takes place.

In the case of a patient showing comatose symptoms, immediately remove the chloroform, and give plenty of fresh air. A stimulant may be administered occasionally, and some recommend a mild emetic if the patient seems inclined te vomit; but the best plan is to leave Nature to herself. Some recommend the holding of ammonia under the nose, but Dr. Richardson does not: for though it might produce no harm to hold it to the nose for one minute, yet it would do no good whatever, and we are to remember that ammonia, when in-

haled in excess, is an anæsthetic itself.

If there are signs of a patient's dying by syncope, withdraw the chloroform in the first place, give plenty of fresh air, and throw the clothes loose: do not administer ammonia nor throw water upon the chest; but if the breathing stops, try to start it by means of artificial respiration. Dr. Richardson here explained the different methods in use for producing the desired end. The readiest plan is that introduced by Dr. Marshall Hall, and has received the name of the "Ready Method." It is effected by laying the patient on his side, and rolling him over on his abdomen, then back again, keeping up a steady alternate motion. But this plan. although answering very well for children, does not at all well for adults, owing to the strength of the abdominal muscles and the stiffness of the ribs. An adult requires to inhale no less than twenty cubic inches of air at each inspiration to enable him to live; but by this means not more than ten cubic inches can be taken in at once by a dead adult subject.

Mr. Reid, of Regent street, invented an apparatus for ar-

tificial respiration. It consisted of two tubes, which were placed one in each nostril, the other ends of these tubes fitting into a piston, with valves so arranged that one tube threw air into the lungs, and the other drew air out, alternately. The inventor used to close his mouth, and be fed with air through the nose, by way of illustrating the effects of his apparatus.

Dr. Marcet has also invented a very ingenious instrument, but it is too complicated for general professional use; it might do very well for an hospital. Its principle was some-

what similar to the instrument of Mr. Reid.

Dr. Richardson has also invented a machine for this purpose, very simple, effective, and powerful. It has the great advantage of portability, as it can be conveniently carried in the coat pocket. It consists of a double-acting pair of bellows, arranged with valves, so that by working one handle we draw air from the lungs, and by working the other we drive fresh air into its place. By these bellows no less a quantity than thirty cubic inches of air can be administered to or extracted from the lungs by one movement of the handle. This instrument was passed round for inspection.

There is a curious incident connected with artificial respiration: it is, that if when an animal is dying, we use the bellows a little, so as to keep up the respiration, we keep up life for some little time, but the moment we leave off its use, the animal dies. In using the bellows, it is well never to give too much air at each successive stroke, as cases have been known of the air-cells being ruptured through excess of air, administered in this manner. It is of little use keeping up

artificial respiration any longer than fifteen minutes.

A plan has been suggested for setting the heart in motion by galvanism. If we apply the galvanic current to a portion of muscle within from one to three hours after death, the muscle will often contract; and if we use an electro-magnetic machine, we can produce a series of contractions. But Aldini, Volta, and all the great galvanists, admit that the heart does not act like other muscles; indeed, the true rhythmical action of the heart can not be reproduced by galvanism except directly after death.

There have been many violent discussions as to the action of galvanism, and it still remains a great question whether it communicates a new force entirely, or whether it merely calls up the remains of power that previously existed in the muscle. This point has never yet been decided; but supposing that by the aid of galvanism we could set the heart in true rhythmical action, the great question yet remains to be solved, how is the current to be applied? It has been tried in every way that could be thought of: it has been applied through the medium of the nerves, it has been applied to the pneumogastric nerve, and Dr. Snow on one occasion pushed two necdles through the wall of the chest right into the muscular wall of the heart; but in no one of the numerous experiments that have been made has action of the heart been produced. Dr. Richardson has tried numbers of experiments with a like In one experiment he killed a deg, and opened the jugular vein, and passed one galvanic wire through it into the heart; on applying the other pole to the chest, he could perceive no action of the organ; he then opened the chest, and applied the wire to the wall of the heart, with no better success; and he is of opinion that galvanism does more harm than good, since he has found by experiment that if he exposed two hearts of different animals, and applied galvanism to the one and let the other alone, the one that he had galvanised always stopped beating before the other one that was not galvanised. We may apply galvanism, but he (Dr. R.), speaking with a fair knowledge of its properties, could think of no applicable method of making it useful in exciting contraction of the heart after death.

The post-mortem appearances in the bodies of persons and animals who have died from the administration of anæsthetics were next considered.

After death from chloroform, the lungs, heart, abdominal viscera, and kidneys are sometimes found to be greatly congested, both in inferior animals and in the human subject. Sometimes the brain and spinal cord are also congested; at others the lungs are of a milk-like whiteness, the veins and the right side of the heart full of blood, and the arteries and left side empty. Dr. Richardson has seen the post-mortem effects of narcotics in as many as 2,000 inferior animals; and in some cases, after chloroform, he has occasionally found that when death took place suddenly, there were spots of congestion in the lungs, but no change whatever in them sufficient to account for death. Usually the lungs were bloodless, and there were little evidences of change in the nervous system; the great and only cause of death being paralysis of the heart.

Amylene leaves the same effects as chloreform on the hu-

man subject. Ether produces more decided congestion of the

lungs and brain.

The Lecturer then proceeded to destroy a rabbit by means of a strong dose of chloroform, and opened the animal to show his auditors practically the post-mortem appearances. The experiment was highly successful, and the theory that death is produced by paralysis of the heart was shown; for while the lungs were free of any congestion, the right side of the heart

was gorged with blood, and the left side empty.

Finally, Dr Richardson expressed his regret that the course of Lectures on Anæsthesia and Anæsthetics had come to an end, and thanked the members for the deep interest and attention they had shown to the subject of the lectures. As this was the first course of lectures that he had delivered upon anæsthesia, and indeed the first course that had been delivered anywhere, he had found some difficulty in arranging his progress from step to step; he had been undecided how to make the beginning, but the plan he had adopted had proved sufficiently practicable for his purpose. He hoped that some of his auditors might be induced to make the subject of anæsthesia a part of their studies. In conclusion, he expressed his best thanks to Mr. Lloyd Bullock for his kindness in doing everything in his power to procure specimens for these lectures, and to Mr. Vacher (Mr. Bullock's assistant) for his very able assistance.

Mr. President Waite then rose, and in a brief but able speech requested the members and gentlemen present to join him in a vote of thanks to Dr. Richardson. The vote was carried unanimously, amidst loud and prolonged acclamations.

—Dr. Richardson's Lectures, reported for the Dental Review.

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EPITHELIAL CANCER OF THE LIP.—Mr. Jonathan Hutchinson has given us in recent numbers of the London Medical Times and Gazette interesting statistical clinical records of epithelial cancer of the lip. His statistical analysis extends over 127 cases.

Women are the subjects of this disease in the proportion only of 5 to every 100 males; and when it does occur in women, it is usually in those who have been accustomed to smoke. The lower lip is affected in 90 per cent. of the cases, the angle of the mouth in 6 per cent., and the upper lip in 4

per cent. The average age of patients suffering from cancer of the lip is 58 years, the extremes in the series being 28 and 82.

Operations were performed in all the 127 cases. Although many of them required extensive incisions, and, in three, glands were removed from under the jaw at the same time, only three ended fatally. One, a man aged 62, died on the ninth day of erysipelas of the fauces; one, a man aged 54, died after an extensive operation, "of erysipelas, attended by an eruption like that of scarlet fever;" and the third, a man 59 years of age, died from erysipelas on the seventh day. This rate of mortality Dr. Hutchinson justly considers as scarcely worth noticing when we call to mind the fearful nature of the disease, when not interfered with. The great point is to attend to the general health of the patient and keep him removed from any risk of contagion from erysipelas.

In reference to the liability to a return of the disease in the wound or cicatrix, in 120 cases out of the 127 the wound healed for the time being, and was reported sound when the patient left the hospital. The following table shows the results of the 127 cases:

THE ANNOYANCES OF THE ADMINISTRATION OF CHLORO-FORM.—There is continually appearing evidence of the loss of confidence in chloroform. The eminent French surgeon, Robert, who seems to ignore ether, in the recent volume of his lectures, makes the following remarks in regard to the administration of chloroform:

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"The first condition, for the performance with safety of a long and delicate operation, is that the surgeon should have his mind quite free. Now, however intelligent the assistants who manage the inhalation may be, still the administration of chloroform is a great pre-occupation for the surgeon. I con-

<sup>\*</sup> In the above classes three cases are mentioned twice on account of their results entitling them to a place in more than one of the groups.

fess that, for my part, I would rather in such a case not perform the operation than do it with constant fear of seeing some accident occur. So that you must reason with the patient and persuade him to allow the operation to be done without chloroform, and exaggerate to him the dangers of anæsthesia."—Medical and Surgical Reporter.

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ON CHLOROFORM AND THE NARCOTIC REMEDIAL SERIES,-THEIR ACTION AND APPLICATION.—Lecture XI.—I have said that all the narcotic series have but one mode of action in their destruction of sensibility. I may add that this action is not altogether obscure; indeed it is not going too far to say that the modus operandi of these remedies is better known than that of any other class. We are indebted to Dr. Snow for the insight we have thus obtained. By a singularly happy series of experiments, Snow has proved that all the volatile narcotics have one principle in common: they arrest oxidation, and in such way stop the combustion of combustible bodies. Here is an experiment in point. I diffuse through this glass chamber chloroform vapor to the extent say of five per cent. of chloroform to the air contained. Giving a little time for diffusion, I now place in this chamber a lighted taper, and as you observe, the taper at once goes out. I repeat a similar experiment with ether, and although ether is an inflammable body when mixed with air, yet if I am adroit in the manipulation, the result is the same. I do it once more with amylene, the result is identical.

I might change the experiment a little for the purpose of illustration. I might take a portion of phosphorus, scrape it and expose it to the air. Under these circumstances I should see the surface undergo change; the phosphorus is absorbing oxygen gas, and it becomes coated with a thick white layer of oxide of phosphorus. I take another piece of phosphorus, scrape it in the same way, and expose it to air containing chloroform, and now I find that this process of oxidation does

not occur.

Once more, I take a portion of fresh animal fibre, I expose this to the air and it undergoes change, putrefaction. I place another portion of animal fibre in air charged with chloroform and no such putrefaction is set up. Here, as a telling example, is a specimen of lung which was shown, thus preserved, at the Medical Society of London in 1851. It has never been removed from the bottle, and except that it has become slightly drier than it was originally, it presents no change.

The reason why chloroform and its analogues exert this

arresting influence is not as yet scientifically explained.

The chloroform seems to undergo no change, and the oxygen seems to undergo no change. In our ignorance, therefore, of what absolutely occurs, we have invented a term for the fact—we say that the action is catalytic, or is due to catalvsis.

Any way we have the fact, and it supplies us with a glance as to the action of the narcotics on man. I must explain in

what manner.

The oxygen taken into the lungs in respiration is carried round the economy, and is applied to the oxidation of the oxidizable materials of the tissues. By this process of oxidation, ever persistent during life, new tissues are elaborated, old tissues are removed. By the same process animal heat is generated, and on the continuance of the process sensation. volition, and all the organic functions depend. When, therefore, chloroform or any other narcotic of the same kind is received into the lungs by the respiration, the chloroform is absorbed into the blood and is borne throughout the whole of the system. Thus carried, according to the theory of Dr. Snow, it arrests the process of oxidation, and therewith the functions of volition and sensation.

Carried far enough, then, the chloroform would cause absolute death. But withdrawn at the proper moment, its volatility saves that ultimatum. The vapor escapes from the body rapidly, and in proportion to its elimination, the arrested

functions are restored.

In the process of narcotization, certain symptoms are produced in the animal body, which map out the action of the narcotic, and especially of chloroform, at different periods. Dr. Snow, whose authority we must again seek, divides these into four periods or degrees. In the first degree is included " all the effects of chloroform that exist while the patient retains a perfect consciousness of where he is, and what is occurring around him. This degree constitutes all that a person remembers of the effects of the vapor, except when he happens to dream, and recollects it afterwards."

In the second degree the consciousness is lost. "The mental functions," says Snow, "are impaired, but not neces-vol. xv.—20.

sarily suspended. The patient usually appears as if asleep in this degree, but if his eyelid be raised, he will move his eyes in a voluntary manner. There are occasionally voluntary movements of the limbs; and although the patient is generally silent, he may laugh, talk, or sing. Any dreams that the patient has occur while in this degree. The loss of

sensation is now very considerable."

The third degree of narcotism is one of complete unconsciousness. Every movement made by the patient is involuntary. There is often in this degree rigidity and spasms of the muscles. The person in this state is incapable of "any perception of pain." In this stage almost all operations may be performed excepting those on the mouth, for the rigidity of muscle is frequently most marked in the muscles of the lower jaw, and the mouth is firmly closed.

In the fourth degree the breathing is stertorous, "the pupils are dilated, and the muscles are completely relaxed."

The patient is always perfectly insensible.

The division of narcotization into these four stages is among the most exact of observed medical facts. Any one who has administered chloroform many times will at once recognize the truthfulness of the picture drawn. I shall show presently that the knowledge of these stages is essential in the administration of the narcotic.

The degrees of symptom thus observed in reference to chloroform extend in a general sense to the administration of ether and amylene. In etherization, however, the first degree is very much prolonged, the second is more boisterous, the third is more evanescent, and the fourth is more decidedly stertorous. Taking them altogether, the fourth degree of narcotism may be arrived at under chloroform more quickly than the second by ether. This, even when the chloroform is given deliberately and carefully.

In the administration of the narcotics, and especially of chloroform, certain points deserve consideration in detail. They may not appear of importance as they are noticed individually; but in the mass they supply the principles upon which the safe administration of the agent may be conducted.

In the first place, before ever chloroform is given to a patient, the exact physical condition of that patient should be ascertained. On this point I am and have always been at variance with an opinion of my late friend, Dr. Snow. Dr. Snow held that in all cases where an operation was demanded

it was safe practice to give the chloroform, whatever might be the physical condition of the patient. He carried this rule to such an extreme that, in the majority of his cases, he never examined the person at all, and it is fair to admit that his rule was so far sound that out of four thousand administrations of the vapor, he met with but one fatal result. Nay, it is but fair further to admit that in instances where large and painful operations are contemplated, the determination as to the operation affirmatively is sufficient to determine the propriety of administering the narcotic.

But in trifling operations, such as tooth extractions and removal of tumors, in operations, I mean, where the danger to life is not present from the operation, the rule, in my opin-

ion, entirely breaks down.

In ascertaining, then, the physical condition of the patient two important inquiries have to be made. 1st—Is the respiration healthy? Secondly—Is the heart healthy? These two inquiries must be conducted by means of physical diagnosis, i. e., by the stethoscope, and by careful exploration of the chest, and I maintain, as I shall afterwards show by incidental remark, that no man is truly competent to the administration of the narcotic series who is not competent in this matter of diagnostic skill.

I lay it down as a rule, in short, which experience will every day strengthen, that the danger of chloroform is less in the mode of administration (though that is of no mean consideration) than in the exclusion of patients who could not

take it without some risk more than ordinary to life.

The conditions under which chloroform becomes a dangerous remedy are of six kinds:—1. Cases of tubercle of the
lung; 2. cases where there is irregularity of the heart from
feebleness of the contractile muscular wall; 3. cases where
the heart is very feeble, and the patient is loaded with fat;
4. cases where there is intense anæmia or bloodlessness; 5.
cases where there is distinct disease of the kidney, attended
with the secretion of albumen; 6. cases in which there is
marked evidence of congestion or softening of the brain.
There may be many more exceptions, but these occur to me
as most prevalent and determinate.

It is no intention of mine to lay it down dogmatically, that in all these conditions chloroform is to be considered as strictly prohibited. Each case must be judged by the phenomena it presents, but in every case such as I have glanced at, chloro-

form is unadvisable in all small operations; in other words; chloroform in such examples is only advisable when it adds

to the chances of success in the operation itself.

Granting that chloroform, or ether, has been decided on, it is well, wherever it is possible, to prepare the patient for it. It is best that the stomach should not be empty, and it is necessary, to avoid painful vomiting, that the stomach be not loaded at the time of the inhalation. A light meal with but little fluid, taken about two hours beforehand, is a good practice. Some practitioners whom I meet like to give the patient a glass of wine previous to the inhalation; there is no objection to this, and if there is any sign of faintness or fear, it is useful to give the wine, but the quantity must be limited to two ordinary wineglassfuls, otherwise the vomiting is in-

creased and prolonged.

The position of the patient is another matter to be consid-It is, in my opinion, of little moment whether the sitting or recumbent position be chosen, but this I am convinced is of consequence, to let the patient retain the selected position for three or four minutes before inhalation. It is a curious physiological fact that the circulation changes in time on change of position. The pulse which was at seventy when a person is standing will fall to sixty-five, and I have known it fall to sixty on the same person lying down at full length. The pulse at seventy in the sitting position will fall to sixtyseven or sixty-five on the recumbent position being taken. The rise in the pulse in changing positions in the reverse way is equally well marked. The cause of this variation yet awaits explanation; but the variation is a fact, and as it is of moment to have the circulation as steady as possible during the administration of the narcotic, the patient should not only be kept in one posture for a short time previous to inhalation, but during the whole period of narcotization. is an exception to this rule, it is in case of syncope, then if the person is sitting, it may be necessary to bring the body slowly down to the horizontal posture.

Lastly, an effort should always be made to quiet the apprehension of the patient. A few gentle words, or a brief conversation enticing the mind to the consideration of other subjects than danger, or chance of danger, is invariably a wise

and safe policy.

The administration of chloroform being agreed on, the next point to be considered is the regulation of the amount to be supplied. This can only be secured by the use of a proper inhaler. To give chloroform on a linen rag, a piece of lint, or a sponge, is at once as unscientific as it is wasteful, and as wasteful as it is unsafe. Given in this way, no check whatever is put upon the quantity absorbed by the patient, while the surrounding air, charged also with the vapor, is annoying to the operator and to all around. I have seen a bystander obliged to leave the operating table owing to the influence of the chloroform vapor, all of which was being wasted.

The best form of inhaler is Snow's, with Sibson's mouthpiece. I will pass it round that you may see its construction. There are in it two chambers; one (the outer) for holding water to secure an equality of temperature; the other (the

inner) for holding the chloroform.

Down the center of the inner chamber there passes a slight frame-work covered with bibulous paper, upon which the chloroform falls when it is poured into the inhaler. Air to dilute the narcotic is freely admitted by a series of holes opening into the inner chamber, while the exit opening is large, and communicates with an elastic tube one inch in diameter, and six or eight inches long, for connection with the mouth-piece.

The mouthpiece, made of thin metal, is double valved. One valve, directed inwards, prevents the breath exhaled by the patient from reëntering the inhaler. The outer valve secures the escape of the expired air, and being under the control of the administrator of the chloroform, serves the important purpose of enabling him to admit a larger volume of

air, when that is required.

The amount of chloroform required is governed almost by mathematical law, when the inhaler above named is used. In commencing the inhalation, one drachm and a half of chloroform is the best quantity to put in. This will ordinarily suffice to carry an adult patient into the third degree of narcotism. It is well to commence with the exit valve altogether turned off, by which means a large volume of air is inspired, and the patient is accustomed to inhale the vapor comfortably; after half a minute or so, the valve may be turned on, but it need rarely be carried entirely over the opening. In the majority of cases, the necessary degree of narcotism for any quick operation is thus secured; but if the operation is prolonged, more chloroform may be added in half-drachm doses. The degree to which the insensibility should be carried

varies with the kind of operation. In tooth extraction, it is very often not necessary to pass beyond the second degree. This is particularly the case where only one tooth has to be removed; but inasmuch as the chloroform has to be withdrawn when the operation is being performed, it will be found always best practice, when several extractions have to be made or tedious operations to be done, to carry the narcotism to the third degree, and if there is much rigidity in the muscles of the jaw, so that the mouth can not be opened, to the fourth degree. When the eyes are rolled upwards and the muscles are relaxed, the operation may safely begin, nor is there any fear of a return of sensation for the space of at least four minutes. The patient may move a little or flinch, but these actions are not produced by pain.

As soon as an operation is concluded, the patient should be freely supplied with air; and he is much better let alone until consciousness is complete. If vomiting occurs, it is, in my opinion, best to encourage it, for in the vomited matter chloroform is thrown off. The stomach *i. e.* takes on eliminatory functions, and the sooner the chloroform is expelled,

the sooner the vomiting ceases.

The causes of danger and of death during the inhalation of chloroform, and indeed of all the volatile narcotics, rest upon their action on one of three parts—the brain, the heart, or the lungs. Different narcotics influence these parts differently. In poisoning from ether, in so far as I can judge from experiments on inferior animals, the effect is commenced in the brain. The fumes of the lycoperdon seem first to act on the respiration, checking that function. The vapor of chloroform again appears primarily to produce a depressing influence on the heart. In nearly every fatal case after chloroform, the report goes, "the pulse suddenly stopped." death, therefore, is by syncope. This view is supported by experiment. If the chest of an animal be opened, and the respiration be sustained by artificial means, the heart will continue beating for a long period of time, and its contractions and relaxations may be carefully observed. Now, in this state, if a little vapor of chloroform is blown upon the pulsating organ, the action will stop and the heart will remain paralyzed until such time as the chloroform driven upon it has been removed either by evaporation or absorption. When the removal occurs, then the heart once more starts off into active play.

If in an experiment of this nature, the chloroform, instead of being blown upon the heart, be injected into the great aorta at its commencement so as to feed the coronary circulation, or, in other words, the heart itself, with the narcotic, the same result, arrest in the contraction of the organ, will ensue.

I am speaking now from direct experiments, personally observed; we gather from them, as well as from the symptoms in cases of fatal inhalation, the fact, that chloroform is fatal by an immediate influence upon the heart, a fact which

Dr. Sibson was the first to suggest.

After death from the narcotics, certain post mortem appearances have been observed, which require notice. In the human subject the effects of ether have not been much recognized, owing to the lucky circumstance that there has only been one certain death. In animals killed by ether, there is produced general congestion of the lungs of the right side of the heart and of the brain. The whole of the soft structures as well as the blood evolve an ethereal odor, and the blood is sometimes more fluid than ordinary. After death from chloroform, and the remarks in a general way extend also to amylene, the lungs are not specially congested. Indeed, in the inspection of nearly two hundred animals killed by chloroform, I have never once found the lungs congested. I have rather found them pale and bloodless, in some instances quite white. Dr. Snow records a similar experience. In the human subject, however, in several cases the lungs have been found somewhat congested. The reason of this difference, granting it to exist, is not very plain. In all cases, human and comparative, the right side of the heart and the great vessels are found engorged with blood, while the left side is usually quite empty; conditions, each alike indicating that the primary failure or paralysis is in the central organ of the circulation. The blood after death by chloroform is sometimes quite fluid, but inasmuch as it coagulates on exposure to the air, its fluidity must be considered as dependent on its confinement in the vessels, and on the presence of the narcotic vapor. This view is further affirmed in the circumstance that the addition of chloroform to newly drawn blood does not materially interfere with the process of coagulation. No special modification of the nervous system has been observed after death from the narcotics named.

The conditions which seem to have favored the occurrence of death from chloroform have been much commented on by

various authors. It has been noticed as a peculiar fact that in a great number of fatal cases, the death has happened either before the operation, or during an operation very trivial in its nature. Hence a conclusion has been drawn that a large operation is favorable to the success of chloroformization as a process. Dr. Snow was not opposed to this hypothesis; on the contrary, he was inclined to think that the loss of a moderate quantity of blood was in some instances of advantage. For my own part, I can find no data of sufficient extent to guide me to a conclusion on this point.

Diseases of the lungs is a second condition which has been supposed to contribute to a fatal catastrophe from chloroform. In a few of these cases, tubercle of the lung has been found as a preëxistent malady, and so found has had possibly a share

in the result.

But the diseased states which most of all are causes of death, are those in which the heart is implicated; the condition of heart most dangerous is that in which the walls of the organ, from structural change, have lost, more or less, their power of contractility. I look upon this form of disease as even more important than valvular disease, always supposing that the obstruction arising from diseased valves is unattended with symptoms of immediate langer. To stay to point out the indications of softening of the walls of the heart would lead me into an argument too long for the present time, and too purely medical to be strictly in place here. I must therefore rest satisfied with the above general statement. You will ask me what is the best treatment to be adopted in cases where during the administration of a narcotic vapor, and especially of chloroform, danger presses. The treatment is summed up in a few words. If the patient is breathing, at once withdraw the narcotic and give plenty of fresh air; if the patient is not breathing at once, do not hesitate an instant, but set up artificial respiration. This may be done either by mouth to mouth inflation, or by Dr. Marshall Hall's plan of placing the patient on the face, pressing the back, then bringing him on to the side, and repeating these steps some fifteen or twenty times a minute; or, lastly, by the use of a pair of double acting bellows, such as I now place before you. These bellows, which may be carried in the coat pocket, have this advantage: in expansion they empty the lungs of the air contained, and in closure they fill the lungs with new air from the atmosphere. In inferior animals I can restart the heart, after it has ceased to beat, by these bellows, but no time is to be lost, a resting heart will continue in a condition to recover but a few seconds at most.

I have been asked to express an opinion as to local anæsthesia in dental operations. This is soon done, for I may affirm that there is no known local anæsthetic which is at once certain, safe, and practical for operations in the mouth. Congelation is often effective, but is not convenient. The external application of a narcotic is in most cases, and in the cases best adapted to it, but partially successful. The electrical current, about which we have heard so much, is no anæsthetic whatever. It may divert sensation, it never con-

quers pain.

I have lately tried to introduce a new mode of producing insensibility locally by using a narcotic combined with the continuous electrical current. This process, which in some instances has been very successful, and in other instances equally unsuccessful in causing insensibility of the soft structures, is inappropriate as a general measure in cases of tooth extraction. It has been successful truly in a few cases of this kind, but it is only of service where the pulp cavity is laid open; for the hard tooth structure being a non-conductor of the electrical current, and a bad absorbing surface, no influence is produced at all on the sensitive structure if these be enclosed in dentine and enamel.

I do not, therefore, press this method of operation on your notice, for it is a poor ambition to push forward an indifferent system because it has been suggested by oneself. Moreover, I hope at another time to show you some steps towards improvement, and indeed to bring forward the subject of anæsthesia altogether on a much more comprehensive scale — Dr. Richardson's Lectures, reported for the Dental Review.

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Stramonium in Neuralgia.—Dr. A. Young, in a communication to the *Chicago Medical Examiner*, says, that in his experience stramonium is an unfailing remedy in neuralgia. He prescribes one grain of Tilden's extract of stramonium leaves every two or three hours until the system is decidedly affected, as indicated by dilated pupil, disordered vision, vertigo, etc. It should, he thinks, always be given to this extent, and will seldom need repetition.—Med. and Surg. Reporter.

ACTIONS OF DIFFERENT MEDICINES ON THE MENTAL FAC-ULTIES.—By Professor Otto.—All stimulant and exciting medicines increase the quantity of blood sent to the brain. If this quantity exceeds a certain amount, then most of the faculties of the mind become over-excited. Nevertheless the degree of this action is observed to vary a good deal in different cerebral organizations; and it is also found that certain stimulants exercise a peculiar and characteristic influence upon special or individual faculties. Thus ammonia and its preparations, as well as musk, castor, wine, and ether, unquestionably enliven the imaginative powers, and thus serve to render the mind more fertile and creative. The empyreumatic oils are apt to induce a tendency to melancholy and mental hallucinations. Phosphorus acts on the instinct of propagation, and increases sexual desire; hence, it has often been recommended in cases of impotence. Indine seems to have a somewhat analogous influence, but then it often diminishes, at the same time, the energy of the intellectual powers. Cantharides, it is well known, are a direct stimulant to the sexual organs; while camphor tends to moderate and lull the irritability of these parts.

Of the metals, arsenic has a tendency to induce lowness and depression of spirits; while the preparations of gold serve to elevate and excite them. Mercury is exceedingly apt to bring on a morbid sensibility, and an inaptitude for all active

occupation.

Of narcotics, opium is found to augment the erratic propensities, as well as the general powers of the intellect, but more especially the imagination. Those who take it in excess are, it is well known, liable to priapism. In smaller doses it enlivens the ideas and induces various hallucinations; so that it may be truly said that, during the stupor which it induces, the mind continues to be awake while the body is asleep. In some persons opium excites inordinate loquacity. Dr. Gregory says that this effect is observed more especially after the use of the muriate of morphia. He noticed this effect in numerous patients, and he then tried the experiment on himself with a similar result. He felt, he tells us, while under the operation, an invincible desire to speak, and possessed, moreover, an unusual fluency of language. Hence he recommends its use to those who may be called upon to address any public assembly, and who have not sufficient confidence in their own unassisted powers.

Other narcotics are observed to act very differently on the

brain and its faculties from opium. Belladona usually impairs the intellectual energies; hyoscyamus renders the person violent, impetuous and ill-mannered; conium dulls and deadens the intellect, and digitalis is decidedly antiaphrodisiac. Hemp will often induce an inextinguishable gaiety of spirits; it enters into the composition of the intoxicating drink which the Indians call bauss. The use of amanita muscaria is said to have inspired the Scandinavian warriors with a wild and ferocious courage. Tobacco acts in a very similar manner with opium, even in those persons who are accustomed to its use; almost all smokers assert that it stimulates the powers of the imagination.

If the psychological action of medicines were better known, medical men might be able to vary their exhibition, according to the characters and mental peculiarities of their patients. The treatment of different kinds of monomaniacal derangement also might be much improved, and it is not improbable but that even a favorable change might be wrought on certain vicious and perverse dispositions, which unfortunately resist all attempts at reformation, whether in the way

of admonition, reproof, or even of correction.

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EXTRACTS FROM THE PROCEEDINGS OF THE WAYNE COUNTY MEDICAL Society.—Position a Remedy for Stertor.—Mr. Bowles, after repeated trial, assures the profession that stertor in apoplexy, etc., is immediately relieved by turning the patient well on his side, so that the paralyzed tongue and velum palati will fall forward, and the mucus drain away. Very soon, also, the phenomenon of partial suffocation accompanying the stertor, will disappear.

Acupressure as an Hæmostatic.—Originating with Professor Simpson, this method of arresting surgical hemorrhage in some cases has been warmly advocated by some good surgeons, and condemned by others. Its real value will only be

established after further experience.

Fat as an Antidote to Poisoning by Arsenic.—A small quantity of fat, as of milk, meat, etc., will reduce the solubility of arsenious acid to about one-twentieth of what ordinarily belongs to it, according to Dr. Blondlot. Hence, fat swallowed immediately after arsenic, will hold it nearly or quite harmless until radical means can be adopted to evacuate the stomach. If this is true, it has immense practical value.—Lancet and Observer.

# Editorial.

#### CASE OF ALVEOLAR ABSCESS.

About the 15th of February last, Mr. B—— presented himsel for treatment of alveolar abscesses from the superior central incisors. His age was 26 years; he was of a cachectic constitution; had suffered for six years from malarious influences, thus the system became depraved; there was a pale, somewhat sallow complexion, indicating a want of red globules in the blood.

The gums, superior lip, and all that part of the face was very much swollen, and exceedingly sensitive; the soreness extended up along the nose on each side, though at first it was only on the left. The tumefaction indicated a large abscess about the root of the left central incisor; there was also an abscess of an older formation at the root of the right incisor; this however was not a point of tumefaction; the teeth were both sensitive to the touch, but the left far more so.

The anterior plate of the alveolar process was necrosed from the point of discharge through it down to its margin, and partially absorbed away; the gum over and above this was of a very dark purple color. The extraction of the teeth had been strongly urged, and the remark made that it was impossible to bring them to a healthy condition.

After a thorough examination of the case, proceeded to the treatment, the first step of which was to make a free incision through the gum, into the sack of the left incisor; when a free flow of fetid pus gushed out; washed out the sack first with warm water, then with a diluted tincture of arnica; and in a few hours after with the chlorid of soda. The frequent cleansing with such preparations was kept up for several days, till the swelling and soreness had much abated. A loosely rolled pledget of cotton was kept in the opening from the first; in order that the sides of the wound might not close together and prevent the escape of pus, this pledget extended to the bottom of the sack and protruded somewhat from the orifice, this was removed twice each day and the abscess thoroughly cleansed.

· After the swelling had somewhat abated, creosote was added to

the wash, the cotton was also moistened with this solution; this was continued for several days; then the pledgets moistened with pure creosote were introduced and changed every day. soreness had sufficiently abated, the pulp cavities were drilled into from the palatine surfaces of the teeth, and opened freely through the foramenæ at the points of the fangs, that the pus might escape, and that treatment might be employed through that channel also. These were cleansed out and the same applications made daily as by the opening in the gums. Creosote was pumped through the canals at each dressing, till it made its appearance through the opening in the gum; then introduced into the canal entirely up to the foramenæ a loosely rolled pledget of cotton moistened with creosote, then placed a pledget, as already described, in the sack through the opening in the gum. Continued this treatment for about two weeks, occasionally alternating with tincture of iodine: at this time the fangs were filled with gold. Previous to the filling placed in the extreme part of the canal a small pledget of cotton, tightly rolled and moistened with creosote.

The treatment through the fistulous openings was continued for about two months. Creosote was used until the discharge of pus ceased; after this iodine was used to promote granulation, which took place as rapidly as could have been anticipated with such a constitution. The opening on the left side has had no application for some time, (now the 25th of April,) and is almost entirely closed, and the gum of a perfectly healthy appearance about it; the opening on the right side is still receiving treatment; the gum about it appears perfectly healthy, granulations are closing the opening rapidly. The dead process was absorbed, and new process has been formed. The teeth are now quite firm in the sockets, as much so as their fellows. The teeth and gums, and the parts about them present as healthy appearance as though they had never been diseased.

T.

#### LARGE FILLINGS.

-00

Making a very large filling, or building up the crown of a tooth, is almost always a protracted operation, and in some cases requires several hours of hard labor, more than can conveniently be en-

dured by any operator; it is also exceedingly irksome to the patient. This has been one great objection to this class of operations; and again, it is in many cases impossible to prevent the encroachment of the saliva upon an operation of this kind long enough for its completion.

Many operators have the impression that if a case of this kind becomes moistened, or if the work is postponed for a time, that it can not be properly done thereafter. This is a false idea; the work can be just as well performed, though it has been moistened, and remained in a half finished state for a day or a week, as though it had been kept perfectly dry, and the work not ceased from the beginning to the end.

We refer to this because we know that many operators, on this class of fillings, overwork themselves, and permit themselves to become exceedingly annoyed and fretted, when they are overtaken by the saliva. Every one knows that when he becomes wearied or fretted, and his patient fatigued or irritable, work should stop at once, and be postponed till the condition of both, operator and patient, is favorable, be that an hour or a week.

The objection to this course has been, that when a half made filling is subjected to the saliva, mucus and food, it becomes so

vitiated that gold will not adhere to it.

If the gold already introduced has been properly adapted and consolidated, it will not absorb moisture, and all foreign substance upon its surface may be easily removed. Then, upon leaving a case of this kind in a half finished state, its surface should not be rubbed down or burnished, but remain as a serrated plugger leaves it; and when about to resume an operation, foreign substances may be removed from the gold, with a medium stiff tooth brush and warm water, or a little soap and water, and then clear water, or if there is much mucus, a little alcohol or chloroform may be used with the brush. Then dry with tissue paper or spunk; then throw on a jet of warm air for a moment or two, and the gold will be found in just as good a condition for the reception of the subsequent portions, as though it had never been wet.

We oftentimes make two or three sittings in those large operations, and are confident that we make none the less perfect operations thereby, indeed far more perfect than could be made under excessive fatigue of both patient and operator.

T.

### LANCING THE GUMS.

In the April number of the New York Dental Journal is an article on lancing the gums by Dr. Robertson, in which he takes to task Dr. J. D. White, the Dental Cosmos, and the Dental Register, and perhaps the rest of mankind. In copying an article from one journal to another, it is no evidence that the one who copies endorses every sentiment that may be contained in the selection. It is very frequently done because the article is good in the main, and inculcates some idea or principle that is important; and yet it may contain imperfections. We are sorry to see Dr. R. make such a quibble upon the "flap of gum."

We consider the separation of the gum from the neck of a tooth with the lancet before extraction, a matter of no small moment, Dr. R. and some others to the contrary notwithstanding. Dr. White stated some of the difficulties liable to attend the extraction of the teeth without first separating the gums. The objection which the opposers of this practice make, is, that it prolongs a painful operation. This in reference to a great many cases, is not true. It has been our lot to witness many of the operations of those who extract without lancing the gums, and often is the operation far more prolonged and more painful than it would have been had the proper separation been made.

For the most prompt and efficient performance of the operation. it is necessary that the instrument employed should make the most perfect embrace upon the tooth; now this adjustment can best be made when there is no impediment. The firm attachment of the gum to the neck of a tooth certainly constitutes an impediment. In adjusting a forceps upon a tooth, particularly a molar tooth, it is better to have the gum separated perfectly, so that the instrument may be passed without obstruction to its proper position, and slightly moved in various directions until the embrace is most perfect. It is frequently the case in those precipitate and forced adjustments, that the points or corners only of the forceps are in contact with the tooth, and by this means it is liable to be broken. It is impossible to attain that precise adjustment desirable when the attachment of the gum has to be torn up as the forceps is forced to its position. The teeth are far more liable to be broken, when the gum is not separated, the gum and soft parts are far more liable to

be lacerated; and when there is a hemorrhagic diathesis, bleeding is much more liable to occur, and more difficult to control when it does occur. The pain produced by separating the gum with a sharp lancet is very slight indeed, very much less than tearing it away with the blunt, rough point of a forceps. There are cases in which no cutting is necessary; with these every one is familiar.

T.

### PROFESSIONAL JEALOUSY.

-00---

WE observe a paper with the above heading in the April number of the New York Dental Journal, by Dr. John Allen. This paper is short, but strong and to the point; indeed, he makes several points, yet we can hardly conceive that any dentist who is a gentleman, would be guilty of the practice to which he refers.

One, who we should find thus maligning those with whom he professes to be associated, we could hardly feel at liberty to receive as a professional brother.

The fact that one engages habitually in impugning the motives, or speaking ill to patients, of the operations of reputable dentists, is an evidence that he lacks the elements of true manhood, and of a gentleman, and those who are devoid of these qualities, we don't choose to recognize as professional brothers, however great their skill and knowledge in the profession may be; still good men will occasionally be tempted to say injudicious things; with them, however, it is not a practice.

Every dentist ought to know that, by speaking ill of his professional fellows, and especially of their operations, to patients, is the surest means of defeating his own object, unless he is with those devoid of common sense. It may be necessary sometimes to speak the truth about an inferior operation, but very seldom to the patient, for they are least able to understand the difficulties that attend the proper performance of many operations. It is more admissible to speak of them to a brother dentist, and most admissible to speak of imperfections to him who performed the work.

In all such cases, quite as much is conveyed by the manner as by the language. One may by language speak well of a matter, and at the same time, convey the most contemptible impression, by manner.

T.

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# Original Essays and Communications.

### FILLING TEETH.

(Read before the Kentucky State Dental Association, April 9, 1861.)

BY DR. W. M. ROGERS.

THE filling of decayed teeth is a department of professional duty, in which a greater number of individual operations are performed than in any other, and as each of these efforts involves, in a very great degree, the comfort and happiness of the patient, as well as the character and reputation of the operator, we may safely conclude that any thing which may throw light upon this subject will be of interest to those to whose peculiar office the treatment of these organs appertains.

I would not presume to enter into a general detail of my own manner of filling teeth. I only propose to notice in something of regular order a few things which I conceive to be of importance, gathering in only such corollary details as may sustain an intimate relation to the ultimate success of the operation, and guarding some of the sources which my observation teaches me to believe are causes of failure.

The confidence of the patient is, of course, presumed to be extended to the operator; without this, it were better that nothing should be attempted.

After an examination of the denture, and the decision vol. xv.—21.

upon the indications there presented, it is my practice to commence operations, all things being equal, upon the molars in preference to the remaining teeth, and then upon the bicuspids, taking the cuspidati and incisors last under treatment. This course is better calculated to secure the attendance of the patient, until the whole denture has received attention, as few persons once aroused to the necessity of submitting to the hands of the dentist, will desist at any stage short of the security of the front teeth.

With inexperienced or very timid patients, it may be proper to commence upon the simpler and less painful cavities, progressing to those involving more complication, and of a higher degree of sensitiveness, thus familiarizing the subject for the "tug of war."

Prior to the preparation of a cavity for filling, it becomes necessary to secure such an approach as will permit the proper manipulations, with instruments adapted to the purpose of excavating the decay, and of introducing, consolidating and finishing the filling.

If the defect is upon the approximal surface of the tooth, one of the ordinary methods of separation is resorted to, as circumstances may seem to demand.

For separations made by cutting away the surface of the tooth, I prefer the chisel, or rather I should say, the hatchet, applied somewhat after the manner of the chisel. This instrument has a blade about one half an inch long, the edge of which is about three-eighths of an inch broad, its plane extending on a line with the shaft, at an angle of about sixty degrees therefrom.

I have preferred this to the chisel, for the reason that in manipulating with it the thumb of the hand in which it is held may, in most cases, rest upon an adjoining tooth, guiding the course of the blade, and giving security from accidents.

It may be used upon the lingual margins of the anterior teeth with great facility.

For the separation of the posterior molars, a similar instru-

ment, but having the line of the blade transverse to the shaft, may be used with facility.

A separation once being resolved upon, every consideration urges the importance of making it wide enough to secure the end contemplated, in the most complete manner. Space in which to manipulate properly is an absolute requisite. The character of each separation must be determined by the conditions of the individual case.

For separations by mechanical pressure, I prefer to use caoutchouc; intervening it between the affected teeth. A separation to any extent once being secured by this means, should the teeth become irritable and painful, it is well to desist for the time, yet being careful to retain the space already made by the substitution of a piece of cork, or other less elastic substance, in place of the gum. When the unfavorable symptoms subside, the treatment with the gum may be resumed. With this precaution, cases may be urged to a successful result, that the operator might otherwise be tempted to give up in despair.

In the preparation of the cavity of decay, the manipulations must, of course, vary with the almost endless variety of conditions presented for treatment.

I have, after careful observation, become satisfied that, as a general principle, it is better to have a cavity when finished something larger within than at the orifice. Although such an excavation may induce a necessity for precautions in filling, not applying to one having parallel walls, yet when the work is once done, and properly done, I think there will be greater security in the filling.

For the purpose of embodying as far as possible in a small space that which might otherwise require a very prolix explanation, I propose to take a condition of decay often found upon the upper molars, and proceed to the manner of its treatment.

We will suppose the tooth to have a central crown cavity, with lines of decay radiating along the approach of the enamel

as it ascends to the depressions between the cusps. The line extending to the posterior terminates in a fissure affected by decay, and passing from the buccal angle across the coronal surface, over the lingual angle, and thence upon the lingual surface, terminating in an enlargement about its center.

In preparing this for filling, I would first break away the margin of enamel over the central cavity, giving symmetry to the periphery by the use of the burr drill. Then enter a suitable drill upon the extremity of one of the radiating lines, and drill thence in the direction of the line until the decay is eradicated, or otherwise enter the drill at any number of points upon the affected line to a proper depth; then with a suitable instrument cut away the intervening parts, making the elongated cavity continuous throughout all its margins.

It may be found that one or more of the radiating extensions are broader at their emanation from the central cavity, and converge to a point at the extremity; in such case, I would enter the drill at the point, and then cut away the parts intervening between this and the center with broad bladed excavators. The same principles of procedure may be applied in the preparation of the transverse fissure. That part of this latter cavity which forms the connection by its extension over the angle, with the defect upon the lingual surface, often proves a source of great annoyance in its preparation. There is danger that an excavator or drill applied here with effective force may slip and wound the mouth.

Here a separating file, secured in a suitable carrier, may be used to great advantage, by filing up through the fissure, being careful at the same time to keep the plane of the file on a line continuous both with the coronal and lingual decay.

It is advisable to pare away the sharp edge of the margins of the cavity throughout its whole extent. This is a matter of greater importance in friable teeth, for the reason that a very delicate point may be abraded by the pressure necessary to the consolidation of the filling, when an obtunded margin

will not be thus injured. Such imperfection will, of course, invite a recurrence of decay.

In preparing the gold for filling, I would proceed as follows: Cut the sheet into strips of one-third to three-fourths of an inch in width, and fold these longitudinally. When folded, the width of the slip should be a little greater than the depth of the cavity for which it is designed. This is then rolled into cylinders upon the point of a small broach, making one or several of these from each slip as may be desirable.

Then prepare a few pieces by folding them flat upon a watch spring; the length and breadth of these flat pellets should correspond to the purposes to which they are to be appropriated, as hereafter described.

In addition to this, have at hand some of these slips folded as at first directed, and cut into two or three pieces.

The gold should be handled with great care, using the forceps in lifting it, and in every way avoiding as much as possible its contact with the fingers. When ready for the filling, it should be soft, neat and smooth. With every thing thus prepared, the cavity having been syringed and dried, and the encroachments of the saliva being guarded against, it will be proper to commence the operation of filling by introducing one of the larger cylinders into the central cavity, handling it very softly with the forceps, and thrusting it fully to the apex of the cavity, yet permitting the lower end to protrude. This should then be pressed rather gently to one of the walls, when another cylinder should, like the first, be placed carefully in position with as little disturbance of its shape as possible—this is also forced with gentle pressure to the walls. Thus cylinder after cylinder is introduced, until the outer wall is lined at all points with the gold, which will now remain "in situ," while attention is given to other parts of the operation.

With the forceps now introduce one of the flat pellets before prepared into either of the radiating lines, having it to extend the whole length of the excavation, from the extremity to the central filling. If the cavity will permit, this may be placed to one side with slight compression, and another introduced by its side, when a flat pointed instrument should be entered between the two, and the space thus produced filled with the slips prepared for that purpose; then again introduce the flat point and fill as before, repeating this to the complete consolidation of the gold. If the cavity will only admit one pellet, this may be of sufficient width to permit its central part to be forced up along the whole line of its extent, and immediately consolidated—or if advisable, steps may be used in its opened center, and afterwards be compacted by direct pressure.

The same process is applicable to all the radiating cavities, as also in many cases, to the posterior transverse continuation.

After filling the radiating lines, it will be necessary to recur to the unfinished central portion. Into this introduce a small, round-pointed instrument; when withdrawn, follow by a larger, and again by a yet larger and larger one, until the gold is as thoroughly compacted as the integrity of the tooth will permit. We have then a cavity within the filling. This should be filled as if a simple excavation, until a sharp plugger can not be entered by any ordinary effort.

It frequently occurs that there is an enlargement at the juncture of the posterior radiation with the transverse cavity. In such case, after introducing the flat pellets into the transverse cavity, cylinders may be used to fill this enlargement, a procedure which adds to the strength of the filling, as this point usually rises higher into the dentine, and consequently gives better surface for attachment. The same remarks apply to the enlargement at the lingual extremity of the continuation of this cavity.

The pellets placed in the coronal transverse cavity should protrude full out at the angle of the tooth, and those in the lingual extension should reach the whole remaining length of that cavity; or better yet, the pellets may be placed in the coronal and lingual parts alternately, intersecting each other at the angle. If neither of these processes is practicable, then, after filling the two extremities, without reference to each other, again introduce the file as before directed in excavating, cutting up into the gold, until the file reaches the line to which it was at first carried. This results in a simple incision, one end of which is upon the coronal, and the other upon the lingual surface. This may be filled by pellets, extending throughout its length, and then by strips, as before directed for other parts of the filling.

I think these elongated pellets of importance, because the gold is less liable to abrade at the angle of the tooth, or to be dislodged by any accidental violence, than by any other mode, having less of attachment throughout the extent of the cavity.

The gold being introduced and consolidated, it now remains to finish the filling, by filing away all superfluity even with the margins; when the work may be polished by the use of stones, powders, etc., as the operator may prefer.

This cavity being disposed of, I propose to consider a condition often presented upon the bicuspids, although not by any means peculiar to them.

It is that of an approximal decay complicated with a supervening defect of the coronal surface. In this case, the file or chisel may be used very sparingly by cutting away the coronal surface of enamel which lies over the approximal decay, thus throwing both cavities into one. This excavation when finished, should be larger within than at the approximal opening. The cervical wall should also be a little deeper within than at the margin, but if deeper, it is well to emphasize it, only a little deeper.

In introducing the gold, place as large a cylinder as can be used without marring its integrity as soft gold, in the cavity, the end protruding out from the approximal orifice, and with a flat-bladed plugger press it gently to one of the side walls; apply another cylinder in the same manner to the opposite wall, then introduce a third between these—this should be large enough to fill the intervening space from side to side, and yet not so large as to drag the first two from their positions as it is carried to its place against the cervical This being in place, with a square or oblong pointed plugger, of a size at the point that just permits it to pass between the side cylinders, press the intervening gold with sufficient force to the cervical wall to consolidate it—this, when properly done, will secure the side cylinders in place. If these last have been chosen of sufficient size to protrude from the cavity at the coronal opening after the lateral pressure has been applied, it will only remain to introduce another and another cylinder between these, until the cavity is full, successively consolidating each one thus placed before another is introduced. Or otherwise the space between the side cylinders, remaining after the first consolidation of intervening gold, may be treated as a primary cavity, using of course in this smaller space cylinders adapted to the case—such as those first used would here be too large. But if the side gold does not protrude from the coronal opening, then all the gold first introduced should be consolidated as a simple filling,after, perhaps, the prior introduction of one or two cylinders in the center, according as the depth of the cavity may require or the length of the side gold will permit. The remaining coronal extremity may be filled by the same process.

A case similar to this is described in the Dental Cosmos for January, 1860, by Dr. Charles Woodnutt, the object of which is to avoid the use of the file in the treatment of approximal cavities, by cutting down the coronal surface into the cavity. In either event, I would prefer to separate to some extent, as there generally exists some superficial imperfection, which should be removed, and the approximal margins of the filling are all the safer for optical examination. The grand object, however, to which I have desired to invite attention is rather to the filling of the tooth.

Another case will complete the individual cavities of which I design to speak. We will now take a central incisor decay-

ed upon one of its approximal surfaces, having a considerable part of its lingual wall broken away, leaving a very narrow point upon which to operate near the delicate cutting edge of the tooth—this will not afford a wall as a reliable antagonist to the cervical margin. With such a condition of decay, I would proceed to cut as deep into the tooth as the safety of the nerve will permit, excavating forward to the labial and backward toward the lingual surfaces at the same time, inclining the cervical wall upward as it penetrates into the tooth.

This cervical part of the cavity will then be enlarged within the walls, meeting each other rather angularly. Now secure at the point of the tooth as good a wall as the conditions will admit. This done, the cavity will present a V shaped orifice, the base lying upon the cervical wall, and the apex extending toward the cutting edge of the tooth. The margins of the orifice upon the lingual line yet remain, of course, imperfect.

In introducing the gold, place a large soft cylinder so as to occupy a position both against the cervical and the lingual walls; this, when pressed into the angle formed by the approach of these walls, should protrude below the broken lingual margin, reaching thence to the opposite side of the fracture; the end of the cylinder should likewise appear full out from the approximal orifice. The plane of the inner surface of the flattened gold should be about parallel with the labial wall. The gold being in this condition, introduce as large a cylinder as may be used between the gold in the tooth and the opposing surface; press this up against the cervical wall. and consolidate well. It may be expedient to place two or more smaller, instead of this larger cylinder last mentioned; if so, arrange them regularly side by side in the cavity, and This will secure the gold at that point then consolidate. with firmness. In the same manner place other cylinders, arranging them carefully, and consolidating well as the work progresses.

When the point is reached at which the consolidation of gold in the direction of the axis of the tooth must cease for

want of a lingual wall to resist the filling on that side, it will become necessary to resort to the imperfect excavation at the cutting edge, for additional security to the remainder of the filling.

When brought to this stage, the secondary cavity now remaining will appear about as follows: We have, first, the labial plate entire; a small part only of the lingual wall, the fractured part being to some extent supplied by the extension of the first cylinder introduced. Again, we have the excavation at the point, and opposite to this the wall of consolidated gold, the face of which should incline a little forward to the labial plate of enamel and ascend a little upward as it extends into the tooth. This cavity may now be filled with slips or cylinders, applying the pressure of the final consolidation outwardly and obliquely in the direction of the excavation. This last case is one of those in which crystal gold would seem to be especially applicable.

One of the main principles which I have attempted to illustrate in the preceding cases is that of giving strength to the weaker points of a filling, by continuing the gold there applied from such portions of the cavity as will secure the

firmest attachment which the case may permit.

A very important requisite to the perfection of a filling is good foil. Every case does not of necessity require a material possessing the same uniform qualities. Gold capable of being worked into a very excellent coronal filling may be totally unfitted for the same result in an approximal cavity of difficult access.

The properties of foil to which these different results are referrable are its degree of softness and of adhesiveness. Purity and toughness are absolute prerequisites in any case. The softer the gold when first introduced, the better may it be adapted to the minute irregularities of the cavity. It avails little that the gold be soft when it comes into the hands of the dentist, if in the manipulations preparatory to its ap-

plication to the purposes of a filling, it be frequently and rudely handled.

The advantages of foil over gold in mass, for the purposes of a filling, lie in the fact that the laminæ of foil may be made to lie loosely upon each other, and yet be brought into a condition of comparative solidity by the application of pressure, under which application they may slide upon each other, thus admitting adaptation to minor irregularities among their own surfaces, as well as to those of the cavity in which the gold is placed.

If this statement is true as a primary fact, then the superiority of thin to thick foil for general purposes in dentistry follows as a consequence; and hence also, a given weight of No. 4 foil, prepared for a filling, being loose in its structure, is susceptible of a greater comparative compressibility than the same weight of No. 20, prepared in like manner—a difference of great importance, as that which yields most kindly to the impress of the instrument, upon the one hand, takes shape to the opposing cavity with like readiness upon the other.

In proportion as foil is possessed of the property of adhesiveness, so will it approximate to the stubbornness of massive gold, as its laminæ are brought in contact under pressure. This property renders it necessary that the application of pressure should be made with the greater caution at the right time, in the right direction, and of the proper degree, for the security of the immediate purpose.

The softer and more friable the structure of the tooth, the greater is the necessity for the softer gold, for with this there is less danger of abrading the margins of a cavity, if a sufficient pressure only has been used to secure proper consolidation. It will not be presuming too much to say, that very many otherwise good fillings are ruined for their purposes, by inattention to this point. The abrasion of a margin may not at first appear, but time will certainly develop the imperfection.

In the course of this paper, I have indicated a preference for the slight enlargement of the interior of cavities in preparation for filling. This preference is founded upon an idea that in addition to the many causes which conspire to the destruction of fillings in the teeth, there is one not generally noted, to which I ascribe importance.

With some hesitation I assert it that the difference in the expansibility of dentine and enamel from that of gold, under the varying degrees of caloric to which they are subject in the mouth, considered in connection with the peculiar condition in which most of our operations in filling teeth are discharged from our hands, has a tendency, by philosophical necessity, to expel the filling from the cavity during a long process of the operation of these causes. An object held on a strain between two points tends to slide from the grasp of the weaker point to that of the stronger.

I think it would be found to be a fact upon investigation, that by far the larger number of our fillings are more thoroughly consolidated at the surface than in the interior, and that as we ascend deeper into a filling, the less of density we find.

Without being committed to the confession that there is any necessity that such should be the case, it is only pertinent to the present purpose to assert that the fact so exists.

In the thousands of times in which the temperature of the teeth and the fillings in them is altered in the mouth, the gold in all such cases as these just mentioned, in undergoing contraction, goes from the point of less adhesion—from the direction of the interior—to that of greater consolidation, and consequently of greater security, in the direction of the surface. It is true that if we suppose, for the moment, that the gold is undergoing expansion from an elevation of temperature, then it may be elongated in the direction of the lesser resistance and toward the interior of the tooth; yet the resisting surfaces to inward extension are co-extensive with the walls of the cavity, and are always in operation, while any

very minute length of the filling, once protruded from the orifice, ceases forever to take part in the action, except it may be made potent in resisting any inward retraction, by virtue of a very slight enlargement on being relieved from the grasp of the orifice. In forming the cavity larger within than at the orifice, I would purpose to remedy this supposed evil. More or less inequality exists in the interior of almost every cavity—a happy fortuity if what I have said is correct. It will at once be perceived that these intero-enlarged cavities will require especial attention, to the proper consolidation of the interior part of the filling.

Another remark upon the manner of placing gold in a cavity, and I am done. All that has been said is upon the presumption that the gold is introduced in such manner that the laminæ shall extend from the bottom of the cavity outwardly to the margin. These should extend directly out and on as nearly parallel lines as possible, and should have as much lateral consolidation as can be safely given prior to any attempt to consolidate in the direction of the axis of the filling, otherwise the gold when polished down will present upon its surface many points at which the ends have been pressed below the disc, and these being severed from their actual connection with the laminæ, will in time lose their attachments, thus spoiling the beauty of the filling. In proportion, however, as the gold is adhesive, will this result be lessened.

Having marked out a specific course to follow, which will in itself consume too much, perhaps, of the time of the association, I have not spoken of many points of interest to myself, and must claim credit for at least this exhibition of discretion.

#### INFLAMMATION.

BY W. H. ATKINSON.

THE much discussed phenomena of this intricate subject, usually has but tended to tie us fast to some author's perception or conception of this interesting effort of the life forces to maintain a due equilibrium in the system, or reject tissues so broken as to be unfit for repair; or so to befog us that we are worse off after reading the early authors, than we would be if we came to the investigation with a free mind, because without false record-not, however, to him who recorded it, for no doubt if the exact conception that occupied him was embodied in the record, instead of being false to the perception of the inquirer, it would be demonstrable fact. everywhere, we are at loggerheads in definition, not in manifestation of the mutations of the vital actions. Were I to pursue the line of march so well gone over by the astute and learned, the definition of what is meant by the term would first occupy my thoughts and stimulate my endeavor. the merest tyro will perceive that if we had a clear comprehension and satisfactory definition of the term, I should be justified in at once laying down my pen, after simply writing out this concise statement, whatever it might be, for the use of all who find themselves in need thereof. The old "To burn" definition would as properly belong to the changes wrought upon food to fit it to become a part of the system, as to this same action, when occurring out of the "prime viæ" for the safety of the organism; as in all forms of erythema phlegmons, abscesses, ulcers, etc. For all these are but so many modifications of a true burning (changing by heat) of the various constituents of the body, their inflammable quality being necessary to fit them for its use.

All these being but forms of digestion in the little and local sense, sustaining the molecular life that in the aggregate and

proper correlation constitute systemic life.

What practical advantage can accrue to us from a definition that begins only after the foundation is surely laid, and its important initiative already taken?

In severe cases of inflammation, a close observer will be enabled to perceive a distinct stage of preternatural coldness, "chill," before any increased heat ("pyrexia?") can manifest itself. If, therefore, this stage is apparent in all clearly marked cases that have ever been noticed, is it not pretty safe ground to assert that this is that very initiatory step, to elipse which, will also annihilate all its sequents? To my perception this is a demonstration!

What remains to be done is to ascertain exactly what constitutes this so called "chill," which to me is proven by the rationale of all the cases that have ever been observed, of which we had the treatment intelligibly delineated.

Syncope is one of the most prompt remedies for this state, in its early or more advanced stages. Why? Because the "vis-a-tergo" is taken off for a time, and the congestions allowed a space of uninterrupted nerve influence, without the modifying and retarding action of a disturbed circulation. What is denominated "chill" is but the sensible heat being withdrawn for a time.

I will here premise that we can not create or destroy caloric, the real agent whose modifications appear in chill and heat, expressions signifying the latent and free, or sensible state of this agent, caloric. The mode of bringing caloric from one state to another, whether from latent to free, or from free to latent, is, beyond all doubt, a molecular action of the bodies capable of holding it in a latent state in one molecular condition, and possessing a less degree of capacity thus to hold it in another or changed molecular constitution. Free always seeking the latent state spontaneously when this molecular action ceases to be repeated, by the law of contact with conductors, substances varying in capacity to convey the thermal current, good conductors quickly, and poor ones slowly

establishing the equilibrium, by distribution, or by the free assuming the latent state again.

No tissue can be properly said to be in a state of inflammation until after a loss of the equipoise of the nutrient forces has laid the foundation for this peculiar manifestation thus denominated. This brings us to a point where we may well question whether this action be a cause or an effect. If it be but an effect, it can not be said to be a disease "per se," which will make it imperative for us to look behind this for the true cause, disease, that only takes the inflammatory

method of expressing itself.

If, then, this loss precedes all the more obvious signs of disease, is it not quite fair to assume that the disturbing force is finer and more occult than the usual phenomena of inflammation? It is no difference how near we may come to this process by any sort of means, if we do not have the necessary constituents present—it can not be said strictly to exist. know very well that plethora and bad nutrition, from whatever cause, is said to induce inflammation; but such methods of investigation only paddle about in shallow and narrow channels or pools, the least motion in which raises such a cloud of sediment as to prevent continuing the research for a time, till this debris has had time to subside. Let us at once go to the bottom of the matter, and assert that any departure from the purely healthy standard of nutrition is in fact but a degree of disease that may advance to full recognition or withdraw so quietly as to leave us in doubt, if indeed there had been any abberration from the normal conditions present in the case.

There can be no doubt that if the producing cause of the disturbance had never been in action, that the system should have remained in full play of complete harmony of function. Then if all disease in its incipiency be so occult as to be beyond our appreciation until it shall have made considerable advances toward dissolution of all or part, may we not be excusable for looking a little sharper and closer than the

pathologists have hitherto been wont to look? It does seem to me that the true function of the philanthropic medical man in all the departments is not so much to study to be a mere mitigator of symptoms, as a preventor of the inception of disintegrating influences.

It has already been seen that the heat and swelling (upon which redness depends) owe their existence to a perverted molecular action. Then what are all these changes but a defective combination or separation of the chemical constituents of the body? or in other words, an interference with the normal play of affinities?

If, then, the whole matter of disease in general has been narrowed down to defective play of affinities, we are near the point to prescribe limits to this unfavorable condition of the molecules that compose our bodies. If, then, nutrition, inflammation, and all the vital changes occurring in living bodies, be but examples of burnings, oxidations, it clearly follows that the supply of fuel—oxidizable material—must have something important to do with not only disease, but health also; and brings us to the closing proposition, which is,—Proper food properly taken, exercise sufficient, and scrupulous cleanliness, will annihilate the use of all drugs and doses.

# Proceedings of Societies.

## KENTUCKY STATE DENTAL ASSOCIATION.

THE Kentucky State Dental Association held its second annual meeting at the Masonic Temple, in the city of Louisville, April 9th, 10th and 11th, 1861.

The first day was occupied in organizing, examining and admitting members, electing officers, and other preliminary business.

VOL. XV.-22.

WEDNESDAY MORNING, APRIL 10th.

First Topic—Treatment of Temporary Teeth.

Dr. J. W. Grant, of Lancaster, by request of the President, opened the discussion.

The Doctor remarked that he had but little experience, except in the removal of the teeth at the proper time. In his own family had found his brothers' and sisters' temporary teeth failing quite early; he took the responsibility to treat and fill them, and thus kept them in the mouth and in a healthy condition until the permanent teeth were fully developed, thus preserving a full arch and a well developed and regular set of teeth.

Dr. Pierson deems it of great importance to preserve the deciduous teeth until the proper time of shedding. Dentists should impress on parents the necessity of filling the temporary teeth as soon as decay commences. If requested to extract an aching tooth for a young child, invariably declines! Relieve the pain, destroy and remove the nerve, and fill the tooth. Has been very successful in the use of mechanical appliance, when the temporary teeth impede the development of the permanent, so as to produce irregularity. By means of gold spring and India rubber bands, sufficient expansion of the jaw may be obtained to permit the permanent teeth to be developed symmetrically, and thus avoid extraction.

His daughter, at the age of two years, complained of soreness in the left inferior molar. Examination and excavation showed a large crown cavity, with but a thin layer of dentine over the pulp—filled with amalgam, nicely prepared, and as free of mercury as possible. Five years have elapsed, and the filling remains apparently as good as the day it was put in. Have closely watched her teeth, and filled them as required. She now has nine teeth filled, but has never known the toothache.

The two inferior central incisors made their appearance at the lingual surface of the temporary teeth at five and a half years of age. I let the temporary teeth remain until the fangs are absorbed, permanent laterals, lapped on lingual surface of temporary cuspidati, and stood at an angle of 35°. By removing the temporary cuspides out of the circle a little, the permanent lateral incisors became regular.

Dr. Baldwin has had but little experience in that line; has occasionally treated and filled temporary teeth, with results similar to those of Dr. Pierson.

Dr. Jones treats such cases but seldom; in his portion of the country, but few cases of the kind fall under the notice of the dentist, but fully endorses what has been said.

Dr. Lockerman has given much and careful attention to this subject, and attaches great importance to the preservation of the temporary teeth, let them be diseased as they may—treats locally and constitutionally, and retains them in the mouth as long as possible, even after abscess has formed; but regrets that his success in treating abscess has not been so great as could be desired—is preparing a lecture on this subject, to be delivered before the Kentucky School of Medicine.

Dr. Saunders has nothing new to advance; but few cases come under his notice in this section of country; parents are not educated to the importance of the preservation of the temporary teeth—treats and relieves pain.

Dr. S. GRIFFITH—When deciduous teeth first commence to decay, before inflammation sets in, it is easily treated by removing decay, and filling. What is best to use is an important question. To use gold, the pressure must be considerable—more likely to induce inflammation of the periosteum, and ultimately abscess. Bone filling, when it can be used, is deemed best.

Question—Not in favor, neither will he fill a tooth where an alveolar abscess has been formed. Extracts in all cases where abscess has formed, but avoid extracting where it is possible, by the application of stimulants and sedatives. Lower molars the most important to be preserved as long as

possible. Where a nerve has been exposed in such cases, has sometimes filled, but never satisfactorily.

Dr. Redman prefers saving the temporary teeth as long as possible, and keep the mouth healthy. Extracts only for irregularity. Little girl cutting permanent lower incisor, advanced half its length just back of the central and lateral. Extracted both the temporary teeth—removes only when they force the permanent out of the way—fills only with gold.

Dr. M'CLELLAND--Where a permanent lateral makes its appearance, should not be too hasty in desiring to see the teeth regular—they will generally regulate themselves.

Children are great sufferers from toothache, and the cases are difficult to diagnose; before probing decay, examine the stability of the tooth, so as to ascertain whether the pain is produced by concussion or occlusion of the teeth. Where a nerve is exposed, and aches only by contact of draughts of air, destroy nerve and fill. Where not exposed, cleanse cavity and fill with artificial dentine, as it requires but little pressure, and wears long enough. When the pulp dies without exposure, which is ascertained by percussion, cuts through without hesitation, generally finds nerve dead, or at least highly inflamed. Apply creosote and a little arsenic, and destroy the nerve, but fills only with cotton or something of that kind. Where the cavity is lateral, would fill.

Dr. BAXTER—The development of permanent sets of teeth is vegetable crystalline—fills temporary teeth with lead in preference even to tin-they should be preserved from irritation or inflammation.

Dr. GRIFFITH—After attentive listening, thinks we are all still very ignorant on the subject, and hopes it will have a position for next year, so it may be fully discussed.

Dr. Stone—After inflammation and suppuration have set in about the temporary teeth, there is no more absorption. Where the pulp is destroyed and the tooth dead, it becomes a foreign body—in such cases, always extracts. We may do

injustice by extracting too early, and thus produce deformity—the object should be to protect patients from deformity, and at the same time save them from pain as much as possible. Where much irregularity presents itself, the first bicuspids on each side should be extracted.

Dr. Lockerman—If a case applied of a child, tooth very sensitive, with cavity of decay, but nerve not exposed, would cleanse and fill.

Dr. Stone would not fill, but only cleanse with soap, removing all acid, and let it alone.

Dr. Baxter wishes to know if the crown is filled, whether absorption ceases. Where does absorption commence? At the very apex of the fang, and as the fang absorbs, it gives crystalline form to the permanent tooth. Keep the crown healthy, and absorption will progress beautifully.

## Causes of Caries, and Prophylactic Treatment.

Dr. Grant—This is a subject all dentists feel great interest in, still if we could discover a method of preventing decay, it would be a death blow to our profession. The causes of caries are found in chemical agents lodging between and around the teeth. Caries may be arrested by the judicious use of the file, judicious filling and treatment.

Dr. Rogers felt some anxiety on this subject, and studied it some, and presented the subject to elicit information. The settled opinion is, that two causes produce decay—chemical and inflammatory. We often find on the buccal surface of the tooth abrasions of the enamel; the microscope shows this plainly, even when not visible to the naked eye. These crevices sometimes extend over the lingual surface, and upon the grinding surface; frequently the approaching edges of the enamel are so far apart as to fully expose the dentine; sometimes have cut this out and filled. In one instance found the tooth upon extraction split (both enamel and dentine) to the base. Cleanliness is the remedy.

Inflammatory causes must, for the most part, be presumed. Patient pointed out a spot on the tooth she suffered pain, but no decay visible. After frequent examinations, at the expiration of about three years decay appeared, thus showing that the chemical agents had not taken hold, but the decay had commenced inside. Another case, where tooth had been filled, decay appeared under the filling—can attribute it to no cause other than inflammation. Many cases show the pulp very far from the coronal surface, which shows the circulation to be feeble, and in such cases the dentine and the enamel are both frail.

Dr. Nourse has seen several cases similar to those described by Dr. Rogers, showing clearly to his mind that decay is frequently produced by inflammation, as well as by chemical influence. A patient, a short time ago, after frequent examination on repeated visits, finally discovered a dark spot under the enamel on the buccal surface, with no perceptible fracture in the enamel—broke the enamel, and found quite a large decay.

Dr. M'CLELLAND—Never have been a believer in internal decay; have broken a great many teeth, and never found a case of internal decay; inflammation will assist in the development of decay, in conjunction with chemical agents, both operating at the same time.

Dr. GRIFFITH—One thing very certain, caries generally proceeds from the outside, he believes from chemical agents. Most frequently decay commences between the teeth, and is induced from the lodgment of food or other substances, which cause decomposition. Sometimes decay proceeds from exposure to extreme heat or cold. A lady had a tooth in which the nerve was destroyed by eating ice—drilled into the cavity, and pus discharged. These extremes produce inflammation, which induces internal decay. Stimulants and astringents to stimulate the gums, charcoal and Peruvian bark, are the usual and most desirable remedies, one as a disinfectant, the other a stimulant and tonic.

Dr. Peckover noticed twelve years ago all his children's teeth began to decay; took good care of them, and could not account for it; his wife has lost all her teeth, and he began to reflect whether the decay of the children's teeth was not inherited from the mother. Since then, he has almost in every case inquired of his patients as to the condition of the mother's teeth, and almost invariably received an answer that the mother's teeth were in a bad condition; therefore infers that the decay of teeth is generally constitutional. Children take their bony structure from the mother. Cold water and a brush for cleanliness, and corn bread for diet, are the best remedies.

Dr. DRIGGS—Can repeat only what is in the text books, and agrees with Dr. Peckover, with one exception, viz: that in those cases where teeth on one side were covered with tartar, found more cavities of decay on the opposite side.

Dr. Green—Decay proceeds from various causes—from the acids of the stomach and other chemical agencies, and from inflammation produced either by some concussion by blows, or from disease.

Dr. DWYER thinks the inflammation of decay is produced from chemical agencies, which reach the dentine through small crevices or abrasions in the enamel, which may not be visible to the naked eye, but still exist, and by breaking through with an instrument, large decay is apparent. These chemical agents are produced by acids from the stomach, eating candy, etc.

Dr. Lockerman believes with Dr. Stockton-

If when the teeth, designed for use, Decay, it is but from abuse.

In his observations, the result is different from Dr. Driggs—thinks he has never failed in finding less decay on the side of the mouth in constant use than on the opposite, which is covered with tartar and filled with decay, and from these appearances can without fail determine which side of the mouth is used; believes the dentist should instruct patients to chew all around; whether corn bread or corn beef, makes no difference;

agrees with Dr. Peckover as to the constitutional or hereditary cause of decay.

Dr. TALBERT read somewhere that when a mother has very bad teeth during gestation, the child has bad teeth—wishes to know, if the teeth are extracted, whether the next child will have bad teeth.

Dr. REDMAN hoped to gain information. It is a daily question, why do our children's teeth decay so early? Causes of decay are very different, as is evident from the different character of the decay itself. Agrees with Dr. Driggs. Some patients can not keep the mouth clean; in some who are very cleanly, tartar will accumulate. Finds most decay on the side of the mouth most used.

Dr. Lockerman—A gentleman applied yesterday; examined the mouth; uses the left side of the mouth, and no decay, while on the opposite side not a sound tooth exists, either above or below.

Dr. Baxter can not attribute decay to any thing but chemical action or a congenital imperfection of the tooth, which exposes the dentine. Internal decay is a new thing—decomposition may take place, but supposes that to be chemical. The causes of decay are various, the most frequent are vitiated secretions, and this is made most apparent in women,—young mothers, the moment lactation commences. Decay also sets in, as nursing sore mouth. The best treatment is plain, unadulterated Bourbon whisky—wash the mouth with it, and drink it.

Dr. E. GRIFFITH has seen so many decayed teeth, under so many circumstances, and so many causes alleged, merely to show off a little extra knowledge; but as for any general cause, he is at fault, and it is equally difficult to name a specific cause. Some say mercury, some dyspepsia, and some give other causes—he himself has suffered for years with dyspepsia, and been frequently salivated, and yet his teeth are sound.

Dr. Nourse, in explanation, remarked that from the ap-

pearance of the case before named, he was inclined to believe that internal decay might occur, and yet there may have been a slight fissure, but could not observe any—the tooth had been sensitive a year before any appearance of decay became visible.

Dr. Grant spoke of chemical agents as the general causes of decay. Experience and rational deductions go to prove this to be the fact. Dr. Westcott, of Syracuse, has made a great many tests of food and fluids, that decomposition will take place in about eight hours, as suggested by Dr. Rogers, that enfeebled circulation would encourage decay—an entire suspension of circulation would destroy it. A lady, a patient of his father, lost several teeth by the use of ice. Hard food has a tendency to produce sound, strong teeth; animals that are fed on hard food have strong teeth, while those which are fed on soft food have inferior teeth.

Dr. M'CLELLAND—Cold will kill teeth; intense cold through metallic fillings will kill the nerve—the frequent application of vegetables, as pickles, lemons, etc., not only affect the stomach, but the teeth directly are injured.

Dr. W. D. STONE-You can not depend on hereditary causes alone for decay of teeth, neither can you calculate from the daughters or sons. His wife has bad teeth, and has had for many years, while all the children's teeth are good. Some of the children take after their father, and some after their mother; but if the mother's teeth are in a bad condition during gestation, there is no doubt but the child's teeth partake of the same character. Internal decay is impossibleany case presented to Dr. S. will receive \$100 cash. and cold can not produce decay directly—the jar or concussion of biting or chewing ice may produce inflammation, and thus the death; but suppuration will ensue, and will produce pain, and must have an outlet. Decay of teeth is mostly from external agents-either from food lying in contact long enough to produce softening, secretions or generation of acids or other chemical agents. Externel agents entering the fissures in the enamel, are the causes of disease. Cleanliness, being careful to keep away all foreign substances; if decay appears, apply at once to a good, honest dentist; have all the cavities or fissures filled; let the patient call on the dentist three or four times a year, and have the teeth examined. Cleanliness and plugging is the great secret of keeping teeth in good order.

## Filling Teeth.

Dr. GRIFFITH—The most important thing to make a filling valuable is to shape the cavity so as to retain a filling. Take an incisor tooth, central proximal decay; separate with a thin file, without fracture of the enamel, until space sufficient to work is obtained; use three or four excavators, straight stem or shaft, thin, hoe-shaped, cocked hat excavator. Remove all decay, cutting groove around the edge, and with a fine drill make pits or holes. If sponge gold is used, do so in small pellets. Gold foil in rolls, annealing in a spirit lamp after it is rolled; pack so as to let it project beyond the cavity; turn in the edges; pack with a fine-pointed instrument; dress with a fine file, and burnish.

Dr. Talbert—We all prepare cavities alike. Almost five years ago commenced annealing in ropes, but found it difficult; since then anneal in the leaf, then make into ropes—use an instrument with a roughened point, consolidating each piece as you proceed—sometimes a small piece remains imperfect.

Take second molar lateral surface; with a hard drill made by cutting off an excavator and grinding up to an edge, excavate and drill holes into the corners—take Abbey's Foil, No. 6, one-third leaf; commencing in the lower edge, pack solid along from side to side, leaving the edge projecting; proceed in this way until the cavity is full; then with a small instrument pass around the edges carefelly, to find any points imperfect, if none such are found, considers the work complete. Dresses with a file, then with an Arkansas stone, pumice stone, etc., a stick and chalk, and then with a burnisher and soap, finish.

Dr. Lockerman—Central incisor; first take separating file, cut on both sides, pass through—then a safe sided file, to get sufficient room—excavators need not be described. Shape cavity, cut retaining points; uses ropes annealed, and serrated instruments—commences at a single point on one side, and pack from side to side, condensing thoroughly as he goes, until the cavity is full, then with a sharp point, go all round the border, then condense the entire surface with a blunt point, and finish as usual.

Dr. Pierson—Take a bicuspid; if teeth are close, and proximal surfaces decayed, take a chisel and separate; chisel, excavator and drill are the principal instruments. When the cavity is thimble-shaped, there is liability to slip; cut groove around the edge, and drill pits into the corners; use Watts', Abbey's or Leslie's gold foil; use serrated pluggers; anneal the foil. First fill the retaining points solid, then on this pack first; cut foil into strips of three or four to the leaf, according to size of cavity; roll into ropes, and cut the rope into squares; being sure the foundation is well laid, add piece upon piece. Commence at the center, and make it solid against the enamel, firm all the way, so close that no moisture can penetrate, dress with a file, then burnish with soap and a steel.

Dr. R. H. Wilson—Approximal surface of a central incisor above. First separate the teeth with either a file or chisel—prefer a sharp file—which he does freely; if with a chisel, follows with a smooth file, then with excavators—hoes, hatchets, etc. Removes decay from four retaining points, satisfied with two, if more can not be obtained; then introduce small pellets of gold foil adhesive, prepared exactly as described by Dr. Pierson; fills the retaining points first; then with pellet after pellet builds up the filling to fill the cavity, condensing each pellet as he proceeds with sharply serrated plug

gers. When the cavity is full, dresses with a serrated file, and burnishes with soap and burnisher.

Dr. Baxter—Second molar, inferior posterior cavity. Seat patient; shield hand with a napkin, and pass into the mouth so the naked hand does not touch the mouth; then with curved files separates; press in a piece of pine close down to the gum, so as to prevent bleeding. With excavators remove the decay, making each cut count, but cutting as little above the pulp cavity as possible. With foil, cut into strips and rolled, take an instrument curved at angle of 75° or 80°, with a hook on the handle, so an assistant can use a mallet. Soft foil is used in bottom of cavity, followed with adhesive, using mallet all the time, until full; then file and burnish. The same process for an anterior cavity, using a straight instead of a curved instrument.

Dr. J. W. GRANT—First left inferior molar, decayed on the labial surface. If borders rough use chisel, to bring up the edges; then with right and left excavators removes decay, leaving the cavity largest inside or under cutting, particularly posteriorly—uses Abbey's gold fcil, and with serrated instruments, with foil in ropes, pack towards the walls until the cavity is full and flush, then dresses and burnishes as usual.

Dr. M'CLELLAND makes some difference in the kind of foil used, whether above or below. Lower molar coronal cavity, embracing the approximal surface down to the gum. After cutting down the edge and removing decay, place a block in each side, extending out of the cavity, and fill between the block with adhesive foil, and so repeat until the cavity is more than full; then with burrs and a rolling motion, cut down to proper dimensions and polish.

Dr. Redman—Posterior approximal decay of second molar. Removes decay entirely with an excavator, cutting the cavity larger inside or under cutting. Then roll the strip of foil on an iron wire, so as to form a cylinder, using a mallet as large as can be without moving the gold; then condense; then place another but smaller pellet against one side of the wall; then

another on the opposite, etc., using each pellet smaller than the former, until the last; then use as large a pellet and as solid as possible; then go all over it, with Baxter's plugging forceps, then fill and polish.

Dr. SAUNDERS pursues a course similar to that of Dr. Pierson, but uses crystal gold foil with serrated pointed instruments; shape cavity, cut retaining points and pack with small pieces of foil, solid as you go.

Dr. Baldwin—Superior molar, grinding surface, large cavity. With chisel cut off thin edge; with hoe remove all decay, leaving the cavity a little larger at bottom than at opening; prepare gold (Abbey's); cut foil into three strips; wash out cavity and dry it; fill around cavity, and finish in the center; use instruments roughened on the sides for packing with serrated points. After all is full, double over the ends, and compress it; then with a sharp-pointed instrument feel all around, and if any imperfect points are found, force the instrument in and enlarge the cavity, which again are filled with small pellets—then with files dress to proper shape—with pine stick and pumice give surface, and finish with soap and brushes.

Dr. Nourse—Bicuspid approximal cavity, running into a coronal cavity. Remove all decay with excavators, and file the rough edges of the cavity; form the cavity, roll foil on a broach into block, the first as large as can be forced into the cavity; condense, and follow with strips, fold after fold, until the cavity is full, packing from wall to wall, finally finishing in the center. Fill up to proper shape, and burnish as usual.

Dr. DWYER—Lateral incisor decayed up near the neck. Cut a groove on the inside to admit the instruments—drill small retaining points; wash and dry cavities; use foil No. 6, cut into small pieces (adhesive gold); with very delicate serrated pluggers pack first into those retaining points; fill up the cavity.

Dr. DRIGGS—Lateral incisor, lingual surface. Take a small drill, 1-16 in., using cutting motion to pass the drill

into the cavity, cutting the cavity within a little larger than the outside; then with delicate drill make points towards the neck of the tooth; then a large burr drill is rotated in the cavity, to take off the sharp edges of the cavity; wash and dry the cavity, first with cotton, then with spunk; cut foil No. 4 into strips, anneal rolls into cylinders; then with pliers carry gently but firmly one into the cavity next the neck, the other towards the cutting edge; then follow with adhesive foil; fill the interstices, and pack full with serrated points; then with sharp cutting instruments cut the surface to the proper fullness; then with stick and pumice, and follow with Arkansas stone, and finish with soap and burnishers.

Dr. Greene—Crown cavity of molar; uses a drill to open cavity; uses a drill large enough to remove all decay, leaving a round, smooth cavity; after all decay is removed and cavity properly shaped, wash and dry; examine, and if any points of decay remain, remove it with a small drill; syringe and dry thoroughly; use French pluggers, with pellets, making a sure foundation; then build up pellet upon pellet until the cavity is over full; then file down, being sure that the filling is perfect around the margin, then polish with burnisher.

Dr. E. GRIFFITH—Superior incisor, lateral approximal cavity. Separates, leaving a shoulder to prevent the teeth changing position; not make separation unnecessarily large in labial surface, filling from the lingual; remove decay with excavators and drills, using syringe from time to time throughout the operation, the better to be enabled to see what is doing. The rest of the operation is like others already described.

Dr. Stone—Left central incisor. Ten years ago filled approximal cavity between the centrals. Patient several times complained of uneasiness, but no discoloration appeared, but a sac was formed at the point of the root; removed filling, found nerve dead; fearing that could not pass through to the sac, took a fine nerve broach wrapped with a little cotton, and used it as a piston, until every particle of pus and dead nerve was removed; then again wrapped with fresh cot-

ton dipped into creosote, so as to press in the creosote until it passed through and oozed out through the gum; dismissed patient, to return in three days. This was repeated every three days for two or three weeks, when all soreness and inflammation had disappeared. Then rolled gold on the point of a broach, and passed up as far into the fang as possible; then with another instrument followed, to force it to the apex—another pellet followed this, and so on until the cavity was full; then filled the crown, as described by Dr. Talbert. After so many years, saw the patient a few days ago, yet no recurrence of pain or inconvenience of any kind has appeared.

Dr. Rogers—Discoloration of teeth may be produced by chemical agents, absorbed by the gelatinous or cartilagenous portions of the tooth, also absorption of blood; disease of this portion of the tooth also produces discoloration. For this reason, insists on having complete control of the patients, in all cases where arsenious acid is to be used. Persevering use of chloride of soda has been successful in removing the discoloration.

coloration.

Dr. E. GRIFFITH thinks the absorption of blood into the dentine is the cause of discoloration—has seen cases where the color has been improved; but an entire restoration is out of the question.

Dr. WILSON—If arsenic is applied to a bleeding nerve, the tooth will in all such cases be discolored. To obviate this, the bleeding must be stopped before applying the arsenic.

Dr. Driggs has treated with chloride soda, but as he sees the patient only once a week, has met with but little success.

Dr. Jones cuts away until the discoloration is all removed.

Dr. GRIFFITH—Discoloration is caused by being entirely cut off from all the vital forces, and this can not be restored, but if the external attachment of the periosteum continues, the discoloration is but partial, and a restoration may be effected.

Dr. Pierson treated many cases of discoloration, probably produced by absorption of blood and arsenic; uses 1 lb chlo-

ride of lime and 2 lbs. carbonate soda, and one gallon water. In other cases, uses chloride zinc confined by wax, and generally meets with success.

# THURSDAY MORNING, APRIL 11TH.

# Extracting Teeth.

Dr. Sam'l. Griffith—Commenced at the dens sapientiæ; first cuts the gum freely on the posterior side with a right angle lancet, then on the sides—next take Griffith's elevator forceps, formed like a hawk's-bill splitting forceps; pass down to the process (the long beak always to the inside), and close gently, which will dislodge the tooth, and may be removed with a fang forceps.

For upper molars, use a forceps suited to fit the tooth, and with inward and outward motion break the attachments; but when he concludes to pull, does so outwardly, to avoid breaking the other teeth.

Bicuspids are extracted with the same parrot-bill forceps

in the same manner as the dens sapientiæ.

Dr. LOCKERMAN—Not in condition to make remarks this morning. Speaking of the great Hayden, who asked him the question, "What is the ligamentum dentia?" in reply stated it was the periostic attachments.

In extracting any tooth, inserts lancet slowly to the process, passing it around slowly, so as to sever every attachment. Use for wisdom teeth a forceps similar to Dr. Griffith's, only bent differently. For molar teeth, uses Sherwood's forceps, which are better adapted to the different teeth than any other; must have a forceps to embrace the crown, as well as adapted to the neck; then with outward and inward motion, breaks the attachments, and lifts the tooth out. Bicuspids are treated in like manner. Cuspidata, in addition to the in and out motion, endeavor to give it a rotary. Incisors should always have the rotary motion.

Dr. Nourse—Nothing new or peculiar; use the lancet thoroughly, and the proper instruments with the usual motion.

# Proceedings of Societies.

Dr. E. GRIFFITH discussed the modus opera.

Caldwell extracted teeth. Lower molar, use elevator a lodge, then pass forceps suited to the case; force up under the process until a hold is made upon the neck.

Dr. A. S. Talbert spoke more particularly of molars when the crowns were broken off. Uses his ordinary forceps, but prefers a concave-pointed forceps, grasping at once the process with the tooth. If, however, it is broken so low as not to be within the reach of the forceps, use an elevator, bent at right angles upon itself, using the anterior tooth as a fulcrum.

Dr. Grant uses Teft's local anæsthesia, to allay pain, and

satisfy. 6 grs. morph. sol.

1 oz. chloride.

1 oz. aconite.

First separate gum with very narrow lancet, thinking it less painful than wider. Uses Sherwood's forceps; grasps with suitably shaped forceps (when the crown is frail) below the process, taking all out together.

Dr. Jones—Has nothing new; when he has difficult cases, "gets them out" in the best and easiest way possible.

Dr. WILSON—To extract the root of a central incisor which had been pivoted, introduces a screw to fill the cavity solid; then takes a forceps with straight, thin beaks, passes forceps as high up under the process as possible, and extracts with a rotary motion. When the root is so much inflamed and sensitive as not to admit the screw, uses a half conical pointed elevator, with sharp edges, passing it between the root and the adjoining tooth with a rotary motion; the oval back of the instrument serves as a fulcrum, while the sharp edge takes hold of the side of the tooth and rolls it out.

Dr. BAXTER—There is only one principle in extracting roots, that is, to get them out; if you can't one way, you must another.

The Doctor related an anecdote of a French dentist.

A vote of thanks was offered Dr. B. for the able and amusing manner in which he repeated the Frenchman's lecture.

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Dr. REDMAN—Would like to have the sense of the meeting in regard to lancing the gums.

Dr. Pierson—In extracting roots of the superior central incisors and cuspidati, when decayed far below the process, I would recommend drilling with a small, sharp drill (suited in size to the point of the screw) nearly to the apex of the root; then follow with a burr drill of a taper width, and nearly as large as the screw. The carious part of the tooth is removed, and you have a cavity adapted to the screw.

Place the screw in the cavity, intervening it with care until it is firm, and you are confident the threads of the screw have cut into the bone of the root, giving it sufficient firmness, and the extraction will be performed with very little pain to the patient and much satisfaction to the operator.

Dr. Green uses Harris' improved forceps. Exhibited a molar tooth of rather peculiar form, taken out with one of

those forceps.

Dr. M'CLELLAND—All are aware of the difficulty of extracting wisdom teeth. Even the shortest beaked forceps are generally too long.

In cases where the mouth can be opened but very little, say half an inch, the forceps is long in the joint and thin; in lower molars uses an instrument bent at right angles, placing the forceps on the tooth, pressing it firmly and slowly down.

Dr. Lockerman—Every thing has its objections. Unless a man is very filthy, looks upon tobacco as beneficial as a preservative. At times a soft calculi will collect between and around the teeth, which, if not removed, becomes hard. If a tobacco chewer is cleanly, the tobacco being frequently removed from between the teeth, the deposit will be removed with it. The constant friction of the teeth of tobacco chewers also prevents the accumulation of tartar.

Dr. M'CLELLAND—Tobacco, from its stimulating effect, causes redness of the membrane, also stimulates the glands to an excessive discharge of saliva. Nervous persons may be injured, corpulent ones benefited. This excessive secretion

is of benefit to the teeth, and prevents the lodgment of particles of food or chemical deposits; we seldom find the ropy, viscid, acid saliva in the mouths of tobacco chewers. Where such saliva is present, much and rapid decay is apparent. Antiseptic properties are also possessed by tobacco, as will be found by old plates—the plate being of a more agreeable odor where tobacco has been used. It changes the character of decay from white to black.

Dr. Nourse has nothing of much importance, but has observed the wearing away of the teeth by constant friction. Patients have stated that they are cured of toothache. On the whole, does not consider that tobacco has much effect on the teeth; it is very slight, but has no special effect on the health of the teeth.

Dr. E. GRIFFITH thinks tobacco has little effect on the teeth, not even in the wearing of the teeth, having seen many cases where the teeth are worn almost up close to the gum, but used no tobacco; and this is supposed to be no detriment, as such teeth seldom decay, much of the pulp cavity being filled with an osseous formation harder than the bone.

Dr. Talbert thinks the use of tobacco is utterly incompatible with the character of our profession, as well as with the habits of a gentleman; its mechanical effect in the mouth certainly does, to some extent, prevent the deposit of tartar or any acids about the teeth, and thus to some extent prevents or arrests the progress of decay. Never recommend the use of tobacco under any circumstances as a preservative of the teeth; the injury to the system overbalances any supposed advantage.

Dr. Grant has given the subject some thought, and is disposed to concur with Dr. M'Clelland. The effects are as various as the circumstances and constitutions of the persons using it. The mechanical effect is, doubtless, injurious, causing abrasion, wearing down the teeth, and causing the gums to recede.

Desires to hear from others on the use of snuff, or what is

commonly called dipping. Thinks it very injurious in inflaming the gums and in denuding the necks of the teeth.

Dr. BAXTER thinks tobacco has as many good as bad qualities—it is a good scavenger, fine shavings would do as well; directly, it does no harm, indirectly, its effects upon the secretions and general health are injurious.

Dr. DWYER has experience—chewed many years, but abandoned it.

Dr. Redman—Chewed tobacco many years. Found it not injurious, but rather beneficial, lessening the sensitiveness of dentine. Thinks there is much difference in tobacco: has seen cases where it was evidently injurious, but believes it caused by something in the tobacco, not by the tobacco itself. The wearing of the teeth is caused by the peculiar way in which the teeth come together, as well as the density of the teeth and their peculiar antagonism—have seen many ladies with teeth worn down almost to the gum.

Dr. LOCKERMAN suggested that the receding of the gums is produced by the use of snuff with a stick; the stick forces the gums away from the neck of the teeth, and the snuff forced under the free edge influences and causes a receding of the same.

Dr. Green—Used tobacco for a number of years; was induced to inaugurate the habit by having toothache, which was promptly relieved. Afterwards abandoned the habit, and resumed it again, but found the nervous system much affected; ceased and resumed several times, each time was the nervous system seriously affected. There are, no doubt, many who can chew with impunity, but others will seriously suffer in health.

# Afternoon Session. Artificial Dentures.

Dr. Sam'l. Griffith—Method simple; two modes to take impression—superior jaw full, takes impression in plaster, partial, in wax. Lower always in wax. Mix plaster with

water, adding a little salt, place it in the mouth; can tell when it is set by the plaster remaining in cup; cut patterns in gold; take metal casts as accurately as possible, beat gold down into the female cast by pieces of wood, etc.; when well down, put on the male cast, and drive it home. This, however, does not fit, but with a duplicate cast swage again. Remove plate. Build up the wax and place it in the mouth; have the mouth closed; see that the contour is correct. Remove, and place in articulator. Grind in teeth, and solder. In partial sets makes suction plates wherever it is possible. Uses fusible metal, composed of bismuth, lead and block tin. Uses copper cup for investing and healing up for soldering.

Dr. Driggs—It is very important to begin right, to enable one to execute properly; therefore takes impressions in plaster for full dentures; for partial, first in wax, then in plaster. The plaster model is placed in a flask and heated; while hot, another ring is placed over the impression and filled with zinc. Separate and reverse, placing another ring, and pour lead on the zinc cast; thus you have the female cast. Plates being swaged, use air chambers, prefer to cut out plate and solder on another plate, thus giving a square edge, as well as being enabled to see if the plate fit there as well as elsewhere. Build up wax, place them in the mouth, mark the medium line, as well as several other marks, to enable placing together again precisely as before. Commence grinding with centrals, partially grind as far back as the bicuspids, which are generally found to stand perpendicularly; grind and arrange so that the molars and bicuspids will stand perpendicularly, even if the lower ones must incline very much inward to antagonize; finish grinding up close. The front ones must often be ground very thin. Arrange and sack the teeth, fit up and solder on the band, investing previously in sand and plaster, frequently remove the teeth from the investment, after soldering the rivets and dressing down nicely before soldering to the plate.

Dr. R. H. WILSON-Uses wax-the pine, plain country

wax. Melts the wax into sheets about a quarter of an inch thick; then warm and soften before the fire before using.careful to have sufficient to press with fingers closely over the arch, then around the edges. Remove from the mouth by pressure on the back muscles. Oil immediately, and pour plaster. As soon as the plaster is set, say six minutes, pour metal (8 parts bismuth, 5 parts tin, 4 parts lead), having first with a tack or pin attached to the plaster a piece of lead to form chamber, making a small hole entirely through the cast. Melt metal into an iron ring on a dry board, and dip the plaster cast while green; this promptly chills the metal around the cast, and makes it hug close. The metal is ready to pour just as it begins to granulate. Sift very fine whiting over the female cast, and form the male, of which take duplicates. Melt metal very slowly; if heated too hot, it becomes brittle. After cutting up plate, bends up plate over a series of iron dies, so that it nearly fits the cast. Before placing it on the cast, place it between the dies, and with a few heavy blows drives it home,—fits plates as high on the gums as possible, without interfering with the ligaments; forms a rim by rolling a strip of metal through the mill, one edge quite thin, leaving the other about as thick as a twenty-five cent piece. Builds up a wax form of teeth, tries in mouth, and changes until satisfactory. Grinds teeth, arranges with adhesive wax, replaces in the cast, cutting a groove around above the edge of the plate, so as to form a shoulder to fit band. Casts a metal cast on the plaster in two sections, divided in front, with duplicate metal; stick plate and solders in band, so as to let the end pass around the last molar, and soldered into the lining of the last molar, thus forming a continuous band all around, inside and outside. Uses an investment of sharp sand with plaster; heating up in a charcoal furnace—the cast fastened in a frame-with a bellows and gas blow-pipe, guiding the solder by a small pointed iron instrument, red hot, but not hot enough to burn; then places it in hot ashes to cool, and when nearly so, puts it in hot water, and thus cools

off entirely; then with lathe and burr cuts down the solder; follows with scrapers; then with pumice, rotten stone and oil wash, and finish it with rouge.

#### Miscellaneous Business.

Dr. Stone—Destroys the nerve of teeth with a mixture of four grains of arsenic to one grain morphine, which must be thoroughly ground and triturated in a mortar, so it can never Apply a very small quantity to the surface of the exposed pulp, which is left in the cavity from twelve to twenty-four hours, covered with a small roll of cotton. After with fine French nerve needles, with delicately barbed points, remove the entire nerve—the cavity is then injected with creosote until all bleeding and all soreness disappears. with gold to the apex of the fang, or as near to it as possible, the crown cavity being filled like any other tooth. If inflammation and neuralgic pain sets in, cut through the gum with a lancet to the process, and with a stronger sharp instrument cut through the process to the points of the fang; then poultice with bread and milk poultice, so as to encourage suppuration.

Dr. Pierson—Where the side of the face becomes so swollen that the petient could not see, nor could the dentist see the surface of the teeth, applied three leeches to reduce the swelling; treated with poultice and the wash of lime and soda.

Dr. Redman—In the case referred to, in inflammation at the point of the root, with much swelling, drill through the process into the cavity of the fang.

Dr. M'CLELLAND—In taking impressions under line, much difficulty occurs from the plaster coming against the cheeks and lips, also the dragging of plaster. To avoid this difficulty, a small instrument, called an impression fork, has been invented—it is made of silver, and introduced into the mouth while it is closed. Then spread out, so the patient has only to open

the mouth, and the cup is passed in without touching the lips. After the plaster is set, the patient closes the lips tightly and fills the mouth with air. This loosens the plaster from the mouth; the fork is then passed astride the cup, and the cup is withdrawn without touching the lips.

6 Bismuth,

4 Lead,

4 Tin. In making dies, first dip in the ring as in the impression; use a compound metal, as per formula—proceed to make the male die first, direct from the plaster impression, and the female die is made from the male, of the same metal, which is melted slowly, and poured when nearly steady, to crystalize.

Dr. DRIGGS-Uses thick backing, and flows solder all over

-when thick backing is used, splits rivets.

Dr. BALDWIN-Take impressions in plaster for whole sets, wax for partial; gets male cast of plaster; dips it into the metal while in the ladle; removes the female cast from ladle, lay in a ring, brushing all over with whiting and alcohol; then pour three or four male casts; drive up plate in cavities or holes, to get the shape of the cast; then hammer the plate up as near the shape as possible, after which strike up perfectly. Grind in teeth properly; then remove the teeth from the plate; lay them with rivets up in plaster and sand (white sand); use platina backs, and flow gold over the pins, of same quality as main plate. This enables to carry the backs up full to the point of the tooth, and drew up full and round, after which they are arranged again on the plate and soldered. Do not rim until all the teeth are soldered on, then oil teeth and plate; set into a ring and pour plaster around; remove the plaster without breaking. Place in position, and make a metal die, and with this swage the rim.

Dr. Lockerman uses the metal described by Dr. Wilson.

### WHO ARE DENTISTS ?-No 4.

BY WM. A. PEASE.

In resuming the consideration of the materials used as a base for artificial teeth, I shall devote this number to rubber or vulcanite, as the one next in order and importance. This rubber is nothing more than the common India rubber of commerce, with which every one is familiar; to which is added a certain proportion of sulphur, and the whole is then colored by mixing with it the red sulphuret of mercury, to make it faintly resemble the gum. After it is thus prepared, it is moulded on a model to fit the mouth; and it is then submitted to a high degree of heat or steam, in an apparatus designed for that purpose, to harden and give it firmness and rigid-

ity.

Whether this material is susceptible of further improvement is a matter of speculation. As yet the color is objectionable; and there are doubts as to the propriety of putting so much sulphuret of mercury, as a fixture, into the mouth. rence to it, it has been facetiously remarked, that it is good for the liver, whatever effect it may have upon the mouth and Although rubber has been used quite extensively and with little discrimination for a year, and in a few experimental cases for four years, but few cases of irritation or ulceration of the mouth have been reported, and the history of them is so obscure that it is still uncertain whether they were caused by the coloring material, or from mechanical irritation. believed, however, that the danger of salivation is not great; but, with our present knowledge, no one knows, who uses it, but that his next patient may be affected, and present some of the symptoms of mercurial disease. As was to be expected from our experience with combs and other articles made of rubber, which, though in use for considerable periods of time, still retain the peculiar and offensive smell of the material, we find that sets of teeth mounted upon this base are equally odoriferous, although the wearer soon ceases to notice it.

Vulcanite as a base for artificial teeth is in form and general appearance, color excepted, nearly identical with sets on continuous gum or enameled work. In bulk they are about alike; both are filled in around the teeth so as to leave no interstices for the accumulation of food; and to both, the plumper can be added to give additional fullness to the face. Thus, in these particulars being equal, they furnish a base upon which to institute a comparison of their other respective qualities, as well as their comparative merits, with other materials.

We have before remarked, that one of the chief objections to sets of teeth on the platina base consisted in its weight, and the greater tax it occasions to the roof of the mouth. Rubber is not liable to this objection; as it is not only much lighter than platina, but it is lighter than sets of teeth on gold or silver. In this consists its chief excellence. Persons who have worn sets of teeth on other materials, after trying the vulcanite, speak of the comfort it affords them, in the absence of the weight and dragging down sensation, caused by other materials. But this want of weight makes it but illy adapted for sets of teeth for the under jaw, where weight is an advantage, and is desirable to keep the set in its place. For this purpose the heavy sets on platina would seem to be desirable; but it is found the greater changes constantly taking place on the under jaw from absorption, cause the pressure upon the set to be unequally distributed, which makes it spring, and the enamel to check, crack and flake off. Thus it will be seen that while the platina sets, from their great weight, are not as well adapted for the upper, we can not avail ourselves of the weight, which is desirable for the under jaw, without incurring the risk of frequent fractures and other injuries, requiring tedious and expensive repairs. On the other hand, the little weight of rubber makes it comfortable and agreeable on the upper, but it is liable to the same objections as platina, on account of the changes of the under jaw; with the additional disadvantage of greater mobility by reason of its small

specific gravity. In comparison with these, sets on gold possess a valuable medium; the weight is not sufficient to severely tax the upper, and it is enough to give considerable stability to sets on the under jaw; and its elasticity is so great as to secure it from easy fracture.

Of the durability of rubber as a base for artificial teeth, but little can be said. It has been used experimentally and as a curiosity a little more than four years in a limited number of cases, and quite extensively for a year. When we consider that the average duration of sets of teeth on gold is at least six years, and, but for the large amount of work made by mechanics and poor operators, it would be much longer, it will be seen that the longest duration of any set of teeth on rubber has not been so great as the average duration of them on gold. Already the percentage of repairs is considerable, and some, who have had the most experience with the material, think, unless great improvements are made in it, its chief value will be but for temporary purposes. As remarked in another chapter, an important element of value in all dental substitutes is facility of repair. Sets of teeth on rubber are not easily repaired; and it is asserted that each successive repair so weakens them, that by the time they have been two or three times repaired, it will generally be cheaper, and often necessary, to make a new set.

Probably no material for dental purposes was ever brought so suddenly into use, or was used so indiscriminately as vulcanite or rubber. No other material was ever introduced or backed by so great and powerful a monopoly as the American Hard Rubber Company, which had a great interest at stake, not only in the sale of the material, from which it derived a profit, but also, from the license fee of one hundred dollars, which it exacted from every dentist who used it. No other material ever required so little skill to use it as this. It leveled all distinctions, made it possible for the merest tyro to fit a model, which before could only be done by experience and skill. Hence it was eagerly seized, extensively used, and

advertised by persons of but little skill. They created a public opinion in its favor, and called all those who did not use it, old fogies-men who did not keep step with the march of improvement. Hence many were forced to use it by the circumstances by which they were surrounded, or because they were too selfish or too poor to be able to lose their position or patients for a doubt. In the intoxication of the moment, it was praised extravagantly,—it was called better than gold, and suiting the action to the words, gold was taken from the mouth and replaced with rubber. It was used in suitable and unsuitable cases; for the refined and vulgar; for the rich and poor; for those on whom the loss would fall lightly, if it proved to be valueless, and for those who invested their all in it, trusting that it would prove as represented, and be of life-long service. Thus it was used in a manner and to an extent wholly unwarranted by any knowledge dentists then had, or now have, of its value or durability. Already this exhilaration begins to subside—dentists begin to manifest some degree of alarm; they begin to inquire what will become of them? what will be their position if their apprehensions should prove true? and the more cautious and responsible are now using it less and with greater discrimination. opinion is, that it has been used altogether too much; that for the next two or three years it should only be used in cases eminently suitable for it, or for temporary purposes. If, after that time, it should prove to be valuable, the community will readily pardon what they will then consider a creditable excess of caution; but if it should prove to be of small value, the thousands of persons, who now have it in their mouths, will hardly forgive what they will then consider an unwarrantable and indecent haste in thrusting upon them a base material, which will then be odoriferous in more ways than one.

Thus, having passed in review the principal materials used as a base for artificial teeth, we shall close this chapter with a paragraph, in which will be enumerated some other mate-

rials that are sometimes used for that purpose. Such engage the professional and public attention for a brief period, like the butterflies of the season, and like them as suddenly dis-There are now three materials that still have a nominal use; that yet linger on the outskirts of the profession, used as a desperate means of advertising, but which are too unimportant to demand serious attention. The first we shall notice consists of a combination of base metals, of which tin is an ingredient, which is cast upon the model. The combiner, in his greed to make a fortune out of dentists, took out a patent for this, for which he asked so much for the right to use it, that few would purchase; and it is probable, if he had given a free use of it to the profession by publishing the formula in the dental journals, as is usual with honorable dentists, its fate would have been the same. The other two materials belong to the plastic, or ceramic order, in both of which the base is molded on to the model like clay, of which one is composed, and they are then baked in a kiln like brick. They have never received much professional or public favor: their chief value having been to attract attention to offices, and gain for their makers a brief, but unenviable notoriety.

### PROFESSIONAL ADVANCEMENT.

BY DR. S. CLIPPENGER.

(Read before the Mad River Valley Dental Association.)

Gentlemen and Brethren:—In accordance with your request at our last meeting, I have concluded to pen a few thoughts on a subject that suggests itself to my mind. When appointed, I refused to comply with your request, because I felt incompetent for the task. Though the heart was willing, yet, doubting the ability of my head, I felt that the duty should devolve on some of those among us more competent to perform it. Not willing, however, to prove recreant to the

profession, nor to betray the confidence placed in me by my brethren, and feeling that a bad promise is better broken than kept, I resolved to make the effort. And on gaining this point, the sacrifice of self for the good of the society, the question presented itself, How can I, and each of us, best promote the interests of that profession in which we respectively hold our positions as practitioners? Feeling that it is the duty of each of us to throw in his mite towards sustaining the once degraded, but now honored and respected profession. that we may ere long see it standing untrammeled and undisgraced by quacks and quackery, that all who come within its borders may be stimulated to be men of honor and morality, and acting in accordance with this feeling, we will see the prejudice, now existing in a portion of the community, give place to confidence in our efforts to restore, preserve and protect those parts of the human system allotted to our care.

Then, I ask, how shall we best promote the interests of the profession? On this subject much has been said, and yet we feel there is room for much more; for it is a point that will always need attention. We do not expect to advance any thing new at this time, but merely to sound the alarm again, that we may cast about, on the look-out for breakers ahead, lest, thoughtless of each other and the profession at large, we should lose sight of our noble aspirations, and, instead of aiding our standard bearers to unfurl the banner of Dental Science, be found plucking laurels from its wreath of fame, to accomplish our own selfish designs. Let us then, brethren, divest ourselves of the love of filthy lucre, that we may go to the world holding up each other's hands, and, with unselfish hearts presenting our cause in such manner that it may be seen and felt that we stand united in this glorious cause, and having grounded our weapons of warfare, that our purposes are one; that we all aim at the elevation and promotion of our profession, whose object is the preservation and restoration of the beautiful features of the human family. Let us seek, anxiously, to avail ourselves of all honorable means to

increase our little stock of professional knowledge, that we may be worthy of the confidence which society bestows on us. Let us also prove ourselves to be men of integrity, and we shall, ere long, enlighten that portion of society that has been duped by the would-be dentists, who have persuaded them that their quackery is cheap, because they operate for half the price that we do. And let us leave these tinkers to their own ways, showing to the world that they are not our competitors, and that we are not responsible for their malpractices. Again, I say, let us hold up each others' hands, forming an unbroken phalanx, that at last we may be victorious, not only over these our foes, but each one of us over jealous and selfish self.

# Selections.

ANOTHER "LOCK-JAW" CASE.—Messrs. Editors: In your Journal for Nov. 17th, you allude to a ridiculous mistake in diagnosis, and mention a case of dislocated jaw that, by a homoeopath, was mistaken and treated for lock-jaw, with the jaw locked open? That case brings to my mind another. When I was a six-month student of medicine, a neighbor, while vomiting, dislocated his lower jaw. He consulted an eclectic, who, after an hour's fruitless attempt at reduction, told him he was engaged to go out with a company on a pleasure excursion, and he would give the case further attention on his return. Not being willing to wait, the patient consulted a homeopath. He, too, made a fruitless attempt at reduction. He then gave the patient some of his globules to be taken, and a liquid with which to bathe the face, and left, promising to renew the effort at reduction on the morrow, providing it did not replace itself in the meantime! Half an hour later, I saw the patient. He presented a ludicrous aspect, and, indeed, seemed like one poorly resigned to his fate. He couldn't jaw his previous medical attendants, for the reason his jaw wouldn't work. I offered my services, (students are not amenable to the code), and reduced the dislocation without difficulty. When the homeopath renewed his visit, and learned the condition of things, he took glory to himself

by saying that no man living could have reduced that dislocation, if he had not given medicine to "relax the cords!" The aspirant for surgical glory left abruptly when the patient informed him that none of the medicine left had been used!

—Medical and Surgical Reporter.

O. C. G.

Browne on Secretory Influences.—The latest course of lectures,\* by Bernard, was almost exclusively occupied with experimental study of the several secretions which enter the upper portion of the alimentary canal, and in experimentally demonstrating the part directly played in their production by particular nerves.

He satisfactorily demonstrated, in a series of careful experiments, that each of the salivary glands is stimulated to functional activity by a particular nerve; the parotid by a small branch of the facial, the submaxillary by the chorda-tympani,

and the sublingual by a branch of the latter.

Having shown experimentally, with uninjured animals, by means of alternate section and irritation of these nerves, that this direct and active relation exists between them and the salivary process, he concludes his illustrations by remarking that "a desideratum still exists," for, notwithstanding section of the chorda-tympani arrests the secretions of the submaxillary and sublingual glands, and galvanic irritation of the peripheric extremity of the divided nerve at once renews the secretions, an "anastomosis is formed between Jacobson's nerve and the chorda-tympani, above the point on which we are (he is) about to divide it; and that to ascertain whether Jacobson's nerve exerts any influence on these secretions, it would be necessary to divide the ninth pair in the immediate vicinity of its cerebral origin-an experiment of such difficulty that no physiologist has hitherto attempted to perform it."+

The suggestion is an anomalous one (since Jacobson's is a sensitive nerve, and Bernard's researches prove that to motor nerves alone are to be assigned direct secretory influences.) It appears to have arisen from a fact noticed by Bernard, which is that "the slender filaments (of the chorda-tympani) connected with the sublingual gland were infinitely less sensible to galvanic irritation than those which fall into the sub-

<sup>\*</sup> Lectures on Experimental Pathology and Operative Physiology. By
M. Claude Bernard. Medical Times and Gazette: 1860.

† Medical Times and Gazette, June, 1860.

maxillary plexus."\* But Bernard suggests besides, that this difference may be due to difference in structure of those two

glands.

However this point may be, his suggestion respecting Jacobson's portion of the glosso-pharyngei (ninth pair) suffices to evince our need of exact and complete knowledge of the physiology of this nerve. The point thus raised by him, if settled, would leave no room for doubt as to the exactness of his extremely valuable present contributions to our physiological knowledge of nervous influence on the salivary glands.

Having, for the benefit of our class, entertained the idea of attempting to attain certainty upon the point thus made by Bernard, we found, on examination, that though a number of experiments are reported by several observers on the ninth pair, some of them were directly contradictory, while others, undertaken to effect a solution of these discrepancies, had led to conclusions equally contradictory in themselves.

This is the case with those of Dr. Jno. Reid, made many

years ago.

His observations, like those of previous observers, fell short of furnishing any satisfactory insight into the physiological relations of this nerve. The alleged experiments of Longet on the nerve are as yet unrepeated by any other observer, so far as I know.

It is plain, from the foregoing, that the attainment of certainty upon the particular pointed out by Bernard, was desirable. However slight its value to medical science, it would leave his brilliant success in fixing upon the particular nerves which enact the part of stimuli to the salivary glands, clear of any anatomical question. As a mere test of the possibilities and limits of operative proceeding on the animal, it deserved a trial; and since no amount of difficulty had ever previously deterred Bernard from attempting the performance of any operation, it seemed decided that he had satisfied himself that its performance without fatal injury to the living animal, was impossible.

Before enumerating the operations performed in our experiments in view of the point in question, we may recall to mind the anatomical course and relations of the ninth pair. In the immediate vicinity of its origin, while within the bones of the

<sup>\*</sup> Medical Times and Gazette.

<sup>†</sup> Todd's Cyclopedia of Anatomy and Physiology, Art. Glosso-Pharyngeal Nerve.

vol. xv.-24.

skull, it presents two ganglia. Only a part of its fibres pass through the first, but they all are engaged in the second. Within the inner portion of the foramen through which the larger division of the nerve leaves the cranial cavities, it parts with a branch known as Jacobson's nerve, which enters the cavity of the tympanum by a minute bony canal, and divides into several branches. These supply the cavity and carotid plexus of the sympathetic, and anastomose with some filaments of the facial. It is this connection alluded to by Ber-This division takes place very close to its cerebral origin, and no experiment has been made on the nerve above the level of this division.\* It is peculiar that it here receives filaments from the upper or jugular ganglion of the pneumogastric.

The larger division of the nerve, which is all that has been the subject of experiment, after being joined by filaments of the facial, descends to the mucous membrane of the pharynx and the posterior third of the tongue. To these filaments of

the facial its motor function is due.

The difficulties mentioned by Bernard, in the way of operating upon the nerve at the point of its origin, we shall merely allude to. They are such in character and number that none but the operative physiologist himself could appreciate them. I

Some of these arise from the fact, that the operation must be accomplished in the cranial cavity, and the cutting edge of the instrument will, in the most successful operation in the

† Peculiar, because both are sensitive nerves.

<sup>\*</sup> Unless those reported of Longet be entitled to be an exception.

<sup>‡</sup> An inadequate idea of the laborious dissections on the living animal, involved in the repetition of some of his experiments, may be gained from the following statement of Bernard himself, in his description of his discovery of the motor nerves of the parotid gland :-- "Our first experiments having been unsuccessful, we modified the operative process." "This last attempt was finally crowned with success after the operation had lasted five hours."

It is, to the student of Bernard, an entertaining circumstance to find Bernard speak of a "difficulty" in any operation. In such an operation as we are about to describe, a peculiar additional difficulty exists in the fact, that the operation which has been partially or wholly successful on an animal as one of the preliminary steps, will be utterly useless or misleading as a guide in a repetition of it for similar or additional steps on a second animal, though both may be externally of similar size. This difference depends on the very remarkable variations in different animals of the shape of the skull, its relative thickness, etc. Each skull will differ very remarkably in these and other respects, having a direct bearing upon cranial operations, from every other one.

case, just graze the point of confluence of the lateral and petrosal sinuses.\*

And all the difficulties are to be encountered twice in a particular operation, since the nerves are to be divided on both sides.

In the several instances in which the operation was devised and undertaken, most of the various steps were at once accomplished, and subsequently all were successful. The resulting hemorrhage we had feared soon ceased, without any noticeable result. The first operation, upon a medium-sized dog, consisted in drilling through the posterior part of the occipital bone and passing inwards and downwards a suitable instrument, between the dura mater of the lateral border of the cerebellum, and the corresponding portion of the interior of the skull, to the situation of the nerve. In this case the steps of the operation were performed only on one side, and had no injurious result. A noticeable diminution of the sensibility of the parts of the pharynx supplied by the glossopharyngei, on the operated side, was the only sign that the nerve had been in whole or part divided.

In the next instance, the operation was varied, for the purpose of ascertaining the possibility of dividing alone either division of the nerve, without the liability to a dangerous

result which had been escaped in the first operation.

This was accomplished as before, but now on both sides. When the nerves were thus divided on both sides, the effects upon the animal functions were observed as follows. The operation was ascertained to be successful by these results, and afterwards demonstrated by autopsy.

1st. No difficulty in deglutition, either in eating or drinking, was detected; lapping was performed as usual, nor was it observed that any of the proper motive powers of the parts employed in these functions were in any way altered or im-

paired.

2d. The ordinary sensibility of the posterior two-thirds of the posterior third of the tongue was found to be lost, and with it the sensibility to taste of this part; while it remained

<sup>\*</sup> This difficulty is constantly encountered by the physiologist in all his operations in the cranial cavity—such as division of the fifth pair. In the dog the sinuses lie so closely together as scarcely to admit the introduction of the smallest drilling instrument without opening into them and causing fatal hemorrhage, but if entrance be made into the cavity, and these dangers are escaped, in the next movement in the operation there is the greatest possible liability to other fatal incidents.

intact in the anterior two-thirds. In addition, the sensibility of the upper part of the pharynx, and its tonsilitic and eusta-

chian portions, were lost.

3d. The ducts of the submaxillary and sublingual glands, having been exposed in the manner described by Bernard, the functions of these glands were found to be wholly unimpaired. In the animal on whom this operation had been performed, the application of vinegar to the anterior two-thirds of the tongue always produced a flow of saliva from these glands, through the tubes with which the ducts had been provided.

The ninth pair, therefore, it is ascertained, exercises no influence on the secretory function of the sublingual or sub-

maxillary glands.

The filaments derived from that branch of the facial known as the chorda-tympani, alone, therefore, supply the nervous influence on which the secretions of both these glands depend.

Further, we were led to the following conclusions as to the

result of section of the glosso-pharyagei.

1st. That since after their section, the functions of deglutition will be performed perfectly well, the impression which leads to this reflex action is due to the gustative branch of the fifth pair, and not to the glosso-pharyngei, as has been

invariably alleged.

2d. That while section of the glosso-pharyngei, at the point of their origin, destroys the sensibility of the parts they supply (involving a loss of the power of taste there), the motor power of these parts remains undisturbed. This motor power, therefore, attributed to the pharyngei, must be derived wholly from the fibres of communication received by it from the facial and spinal accessory.

# Effect of Section of the Facial on Sense of Taste.

The question of the effects of injury to the facial, on the sense of taste, being still unsettled, we were in proper circumstances, while engaged as above, to observe with reference to it.

Bernard has reported, as the result of his observations, that when the facial nerve is divided or seriously injured, above the point of emergence from the stylo-mastoid foramen, there is a diminished sense of taste on the same side of the tongue. At the same time the general sensibility remains. He considered it certain that this effect is due to the chorda-

tympani, for if the facial be divided after the chorda-tympani has left it, no effect is produced on the sense of taste.

In an animal in whom this diminution was effected by

division of the facial, the phenomena were observed.

The fact is perplexing, but on attentive consideration was found explicable. The explanation requires, however, an

important modification of our theory of taste.

The sense of taste in its peculiar organ differs from the sensibility of other organs in only an accessory character, which is established not by any mere modification or alteration of common sensibility, but by the peculiar anatomical structure and action of that organ—a structure which involves in its peculiarity the nervous tissue, which, as arranged in other parts, supplies common sensibility only. From this peculiar anatomical constitution of the nervous and other tissue composing the organ arises the accessory character, which we distinguish as sense of taste. Besides this, and supplementary to these anatomical conditions, there are certain physiological conditions essential to the perfect performance of the function of taste—such as the various and peculiar buccal, facial, and pharyngeal secretions, and associated movements of the various muscular parts. Any modification or disturbance of either of these peculiar anatomical or physiological conditions, will affect only the accessory character of the function; but this alteration of the conditions under which we taste, will neither disturb nor impair the common sensibility, which is found to be intact in all cases in which this diminution of taste has occurred.

Any diminution, therefore, of the secretory or motor functions which aid in taste, and which take place through the medium of the facial, and constitute the physiological conditions of the performance of the sense, will be at once manifested by diminishing the perfection of it. A test of this explanation is found in the fact, that the destruction of common sensibility in the tongue involves the loss of all power of taste; and since this is at once accomplished in its anterior two-thirds by division of the lingual branch of the fifth pair, and in its posterior third by division of the glosso-pharyngei, the chorda-tympani being intact, the latter nerve is not in any sense or degree a nerve of sense to the tongue. We may consider it settled that its destruction only affects the sense, as a secondary consequence of the withdrawal of its influence

from the various secretory and motor functions, upon which

the function of taste partly depends.

1. This conclusion agrees substantially with the suggestion offered by Bernard himself, but in addition presents a definite and explicit view of the phenomena of taste. The phenomenon in question so puzzled Stich of Germany (who observed it in a number of cases), that in the absence of a comprehensive and definite explanation, he was driven to attribute it not to the facial, but to fibres derived from the fifth pair. He apparently was not aware that destruction of the fibres of the fifth will occasion, not this phenomenon, and not the phenomena of diminution of taste with retention of sensibility, but an extinction of common sensibility, involving complete loss of taste.

In the course of our experiments, we have met with a fact which corroborates this view, viz: that the diminution of taste on division of the tympanitic branch of the facial, does not involve the root of the tongue, a fact which we could make accord with no other explanation. In this part of the tongue, although ordinarily subservient to taste, the anatomical and even physiological conditions, which the accessory character we call taste arise from, are varied. The secretions here are mucoid, and mainly serve the purpose of providing a very slippery coat for the passage of the food through the fauces; while the saliva, freely poured into the anterior part of the mouth, and which especially aids in the gustative function, is mainly mingled with the bolus of food before it reaches the posterior portion. These fluids do not bathe this portion of the mucous membrane, nor exercise their influence on it; nor are the comminuted portions of the food, before they are amassed in the bolus, brought into contact with it. tion to this physiological variation, relating to the two parts, there is the further anatomical difference, that in the posterior part, the secreting structure of the tongue mostly consists of little glands and follicles, providing substances that have but little to do with exciting the gustative process.

In this part, therefore, as we have observed, although its proper sensibility remains, when the glosso-pharyngei are entire, section of the tympanitic branch of the facial has but little if any observable effect; we could not observe any.

The above is intended merely to present the most abridged

form of the effects of section of the glosso-pharyngei, and wholly with reference to the point raised by Bernard.

The experimental evidence, though meagre, is novel. It may, however, find use in the correction of the errors now implicitly adopted by physiologists, which ascribe the reflex function performed in deglutition to the glosso-pharyngei alone.

Its presentation by Bernard, as a point awaiting solution, in intimate connection with his own discoveries, and being valuable as removing the only point of uncertainty respecting them, invested it with an interest and an importance, which the actual results, since they are known, will hardly arouse for it in the mind of the reader.—American Medical Times.

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THE BEARD QUESTION.—Gentlemen:—Your article in the last number reminded me of one I wrote for a newspaper a few years ago, when the "beard question" was being actively discussed. I retained a copy of it, and, if you are willing, I should like it republished in a Medical Journal, because it points out a pathological and anatomical analogy, which, however well known, is certainly not often alluded to by writers on the subject. Yours, truly, WM. HUNT,

December 3d, 1860. 431 Arch street.

"Messes. Editors:—In the many newspaper discussions upon the beard question, I have, as yet, seen no adequate answer to the oft-repeated argument of the opposers of the appendage—'Woman has no beard, and why should man, who professes to be the stronger, need such a protection, if protection it really be?' 'Women are not intended for the exposed occupations of men,' is the general reply. Now, it strikes me that this does not at all meet the case, and I propose to give a more complete answer to this apparent poser, by showing that there is a most beautiful unity of design in the structure of the neck and face of the male and female, and, by analogy, to maintain that the beard is not only a useful protection, but an important element of manly beauty.

"The female, as a rule, is distinguished from the male by rotundity, or evenness of outline, and this, it is admitted by all, is an essential characteristic of the abstract idea of beauty. This peculiarity of form is brought about by her having, in addition to a more delicate skeleton framework, fine layers

of fat immediately beneath the skin, and this fat is particularly abundant about the bust, the neck, and the face—parts that are exposed with such apparent impunity. Why impunity? Because fat is a negative substance in its physical properties, one of the best non-conductors, and hence a powerful preserver of animal heat, and, in the parts we have mentioned, a great protector of very important organs, as the summits of the lungs, the main air passages, the great blood-

vessels, etc.

"So much for the female; now for the 'lord of creation." My object is to show that the same is virtually the case with him; that what exists, as far as physical properties are concerned, beneath the skin in the female exists, or should exist. upon it in the male. He is distinguished by sharpness of outline; his skin is applied much more closely to the underlying parts. He has a much rougher skeleton, and we can more readily define the position of internal organs from external appearances in him. Hence, he protects himself by appropriate clothing to a much greater extent than his fair help meet, who, I am sorry to say, is too apt erringly to presume upon her natural advantages. Picture to yourself fifty gentlemen at an evening party with bare necks and shoulders. Fifty chills and fifty pleurisies would most probably be the But for the protection of parts that are necessarily exposed—the face and upper part of the neck—what is provided? Most certainly the beard! Hair, like fat, is a nonconductor, and therefore a preserver of animal heat: and, also, by its pliability, it fills up the hollows of the countenance, obviates lankness of visage, and thus contributes to that evenness of outline which we have seen is an essential element of beauty. I know it will be said that there are many fat men and many lean women. But neither of these are types of their class; besides, the former will generally be found to have smooth faces, and the latter have no more business to go in fashionable full dress, or rather undress, than men, because they not only display no beauty, but, by violating immutable laws, they too frequently contract obstinate and often incurable disease."—Med. and Surg. Reporter.

A NEW ANÆSTHETIC.—A writer in the Lancet states that the vapor of turpentine induces anæsthesia. The first case in which he employed it was neuralgia of the supra-orbital

nerve; the turpentine was sprinkled on a handkerchief, and inhaled in the same manner as chloroform. After a few inhalations a gentle sleep ensued, from which the patient awoke free from headache, or other unpleasant symptoms. He has since used it in slight operations, cramps, nervous irritation, etc., and found that it induced anæsthetic sleep.—American Medical Times.

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The following communication from the London Lancet was presented by Mr. Weeden Cooke to the Harveian Society. The subject is highly interesting, and one to which the attention of the dentist is sometimes called.—[ED.

THE SURGICAL DISEASES OF THE TONGUE.—Casually glancing only at the varying aspects of the papillæ in diseases which come more immediately under the notice of the physician, Mr. Cooke took a rapid survey of those injuries and diseases of the structure of the tongue which are generally considered to be surgical cases. Wounds, whether incised, contused, or lacerated, invariably healed rapidly in healthy constitutions—a circumstance which was doubtless due to the high organization of the part, and in some measure, perhaps, to the beneficial influence of the salivary secretion. Idiopathic glossitis was a remarkable disease, arising at times without any assignable cause, and happily entirely under the control of the surgeon. Incisions and antiphlogistic treatment very quickly overcame the malady. Hypertrophy, depending either on chronic inflammatory action or on the tuberculosis, was a more serious and protracted lesion of this organ. either case it was an indication of diminished vital power, and for its relief cod-liver oil and iron, with or without oxide of potassium, and generous diet, generally proved most beneficial; but it was a troublesome affection, the cure of which required much patience and prudence on the part of the sufferer. Sea air was always most serviceable in these cases. Ulceration occurring in this organ was rather aphthous, dyspeptic, strumous, syphilitic, or cancerous. The proper diagnosis of the origin of the ulcer was important, inasmuch as the treatment required in each case was peculiar to itself, and could not be beneficial unless addressed to the systemic condition out of which arose the ulcer under consideration.

After describing the apthous, dyspeptic, and strumous ulcers of the tongue, and exhibiting drawings of them, Mr. Cooke contrasted especially the syphilitic and cancerous ulcers of this organ, and stated that they were often confounded, that syphilitic ulcers with much ulceration of the tongue had been treated as cancerous, remaining for years without benefit, when, the proper diagnosis being arrived at, they had been cured so rapidly as to excite wonder on the part of the patient. Whenever a person presented himself with an ulcer of the tongue, it was always necessary to investigate minutely his whole constitutional history, observing with especial care any cutaneous eruption of even the most trifling character. Thus armed, we may take into consideration the peculiarities of the local ulcer, and so arrive at a mature judgment respecting the group in which it should be classified and the treatment it should undergo. "And in these investigations," said Mr. Cooke, "it is necessary to take nothing for granted. The patient often deceives himself, or is really ignorant of his having a syphilitic taint; and if we do not examine carefully for ourselves, we also shall be led astray in the diagnosis upon which depend the life and happiness of the patient, as well as our own credit as skillful surgeons." After dividing the different characteristics of syphilitic and cancerous ulcers of the tongue, Mr. Cooke alluded shortly to the distinctions between syphilitic and cancerous tumors of this organ, showing that the soft elastic feel of the one contrasted vividly with the hard cartilaginous sensation produced by the other. Operations for cancer of the tongue never succeeded in checking the disease for any length of time. If it did not return in the organ itself, the sublingual or submaxillary glands soon took on the same action, and the misery of the patient was enhanced by the transfer. Of the three modes of operating -by ligature, by the knife, and by the ecraseur-Mr. Cooke had no doubt that the knife was the most desirable. He had seen very bad results from the ecraseur. Local and constitutional treatment was of the utmost value in the malignant, as in the non-malignant affections of the tongue. In the latter class a cure was always to be effected; while in the former, much relief from suffering was to be obtained, and in some instances the disease had been arrested in its progress. Lotions of chlorate of potash, sulphate of copper, and borax were recommended, together with the internal administration of the mineral acids, bark, iron, and cod-liver oil.

CENTRAL OHIO DENTAL ASSOCIATION.—The second semi-annual meeting of this new society will be held in Newark, Ohio, on the 10th and 11th of July, 1861. All dentists in Central Ohio feeling an interest in the advancement and elevation of the profession, are earnestly requested to be present, and it is hoped that each one will be prepared to open his budget, that all may contribute to the general fund of knowledge, and learn lessons of wisdom from each other's experience.

Thomas M'Cune, Cor. Sec.

# Editorial.

#### POSTPONEMENT.

WE see from various sources, that postponement is the order of the day. We learn by the medical journals that the meeting of the American Medical Association is postponed for one year; the same is true of many other meetings and associations. This has been deemed advisable in consequence of the very peculiar circumstances in which our country is placed at present. Men who have heretofore cooperated in these various enterprises, are now thrown into such positions as would render their meeting and harmonizing even in scientific pursuits impracticable. There are other reasons, however, of more force than this. The minds of scientific and professional men have been so much diverted from their specialties, and in common with others, so entirely carried away by the current events of the day, as to be altogether unfitted for scientific research and investigation, so that evidently the preparation that they would have made in view of these meetings, will not be accomplished, and hence little else would be done than mere routine, business transactions. This would be simply running the machinery without accomplishing any work; and again, financial matters are in such a disturbed condition, that most persons prefer to spend no more money than is necessary for actual current living expenses.

These objections stand as fully in the way of the meetings of the National Dental Association and Dental Convention, as of any other bodies. In regard to the National Association, there was a large amount of work designated to be accomplished at the next meeting; very much of this, we fear, will not be accomplished. Several have written to us, saying they could not perform the work assigned them, and we have seen or heard of no one who says he is able to perform his work.

We say this with all due respect for their ability to do what they intended, were the circumstances not so forbidding. In this matter, we desire that the best should be done. If the committee of arrangements and the officers of the American Dental Association think it best that the meeting should be held at the appointed time, let us go vigorously to work, and prepare for it. But it is our firm conviction, that were this resolution formally made, entered into, and agreed upon, that the meeting would be a failure, in two respects, but few would go, and those who did would not be prepared to do anything.

T.

#### INTERNAL DECAY.

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WE see, in the discussions of the Kentucky State Dental Association, that in considering the subject of dental caries, the "internal decay" question came up. If any one will consider the manner in which decomposition takes place, and then give a rational theory for internal decay of the teeth, he will place the dental profession under great obligation, and under still greater obligation if he will prove his theory by facts.

The decomposition of dentine is effected by the operation of chemical agents, having sufficient force to destroy the integrity of either the calcarious or animal constituents of the dentine. The vitality and circulation of dentine is of so low a grade, that it is not susceptible of ulceration or spontaneous decomposition, even when the vitality is destroyed; much less while vitality exists, for it always resists decomposition.

There is no element in the dentine that can break down the structure, nor is the absorption and circulation sufficient to carry away the fragments, even if it was broken up. Dr. Rogers remarks,

"That two causes produce decay, chemical and inflammatory;" he further remarks, "Inflammatory causes must for the most part be presumed." If it is merely a presumption, why speak of it afterward as a truth that has been demonstrated? He refers to a case, in which there was sensitiveness and pain of the dentine, "without apparent decay;" "after three years, decay appeared, thus showing that decay had commenced inside." We can not conceive how this proves the existence of internal decay. The sensitiveness and pain was from an inflamed condition of the dentine, beginning upon its surface, by the influence of irritating agents, that were not as yet able to produce decomposition or decay, until they had attained increased energy and reduced the resisting power to that point at which an attack was possible. Sensitiveness of intact dentine many a time exists, but we have not before heard it suggested as an evidence of internal decay.

The fact that teeth sometimes decay under fillings, is perhaps better explained by the imperfection and inefficiency of the fillings, than upon the internal decay principle. Dr. Nourse "has seen several cases, showing clearly to his mind that decay is frequently produced by inflammation." What kind of cases it is, that will show clearly to a man's mind that which does not exist, we are rather at a loss to know. Dark spots under the enamel does not prove internal caries very clearly to our obtuse mind. We wait with patience, but considerable interest, for the rationale of internal caries produced solely by inflammation.

T.

#### NEW CAUSTIC HOLDER.

We have received a caustic holder from Geo. Tiemann & Co., of New York, which is a superior thing in its way. Dr. Edwards, in speaking of it, says: "The three requisites for a good caustic holder are—First, indestructibility; second, facility of charging; and third, protection of the caustic when not in use or being carried. These points are all obtained in this holder. It consists of a tube, divided longitudinally, with a screw thread cut in the bore, to give a rough hold on the caustic. The halves of the tube are attached to the blades of a light spring forceps in such a way as to be brought accurately together; by pressure upon the blades, the

tube is opened that the caustic may be introduced; it is then hel firmly in the tube while being used, after which it may be dropped entirely into the tube for safe keeping while not being used or being carried. The one we have is some ten inches long, much longer than is necessary for the dentist's use. We would suggest that the manufacturer make them about four inches long for the dentist's use.

The instrument is so arranged that the caustic can not touch the steel or anything that it can corrode.

Every one who uses nitrate of silver should have one of these instruments.

#### A DRILL SHIELD.

This is a neat little instrument, made of silver plate, in the form of a tube about two inches long, and two lines in diameter, or large enough to receive freely the ordinary bur drill shaft. There is upon it a sliding collar, to which is attached a flat arm, about half an inch long, at right angles with the tube; this arm is designed to rest against the finger of the left hand of the operator, or upon the teeth of the patient, to prevent the tube rotating with the drill.

The object of the instrument is to prevent the shaft of the drill from abrading the lips or cheeks of the patient, while being used; it accomplishes that object well. It was invented by D. G. Hussey, and is for sale by J. T. Toland.

T.

#### "HUMAN KNOWLEDGE" AND "IMPARTATION."

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Two articles, with the above titles respectively, have lately appeared in the Register. They are both worthy of the reader's careful attention. They have nothing in common—are not a bit alike—unless it be that both are long articles. One is clear, demonstrative, instructive, and convincing It appears to come from a mind that has almost mastered its subject. The other is like a landscape view that ends away off in the blue distance, and leaves the soul unsatisfied, because it knows there is land beyond that it would like to see. But the soul, unsatisfied as it is, looks and longs, and longs

and looks again, thrilled with the delight of its own unsatisfiedness. This article is entitled "Impartation." Don't ask us what it is about. We don't know—don't want to know. All we read and re-read it for, is for the luxury of seeing a great big, impatient, overflowing soul, leaping, climbing, and straining itself to get beyond its present confined sphere of existence. No better evidence of the immortality of the soul is needed. It almost says, "I pray thee, let me go over and see that good land." Here we know only in part, but there—

W.

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#### PERSONAL.

THE readers of the Register may have noticed that we bestowed no labor on the last two numbers. They have not suffered, unless from curiosity to know what has become of us. Well, we are alive, "and alive like to be," if cheerfulness and good appetite signify anything. But you all know that bad colds, fevers, and most other diseases, fasten on the weakest organs of the system. An attack of fever made a survey of our system, and where should it conclude to settle but on the brain? Finding its domicil "empty. swept and garnished," it claimed "squatters' rights," and held on to its possession, till it was beleaguered and bombarded by a detachment of Esculapian artillery. After the surrender, the engineers of the said artillery regarded the fort as unfit for use, till repaired and strengthened. And now, reader, you know it all. We couldn't write without thinking, couldn't think without a brain, and the "doctors" wouldn't let us use our brain, and hence our long silence.

#### "WHOLLY GIVEN TO IDOLATRY."

EPHRAIM was joined to his idols; and he was let alone. In like manner, the Pennsylvania Association of Dental Surgeons seems to be joined to "amalgam;" and, as far as the Society and its members are concerned, we are disposed to let them alone. We would let them alone, if we could; but we can't. They are not alone, for all the drones in the profession, all the ignorant and unskilled, all the unprincipled, all the lazy, and all the stupid mem-

bers and appendixes of our profession are with them. The members of the Pennsylvania Association are clever fellows—all; but, shade of Crawcour, brethren, what company you keep!

While leaving these brethren to enjoy the society of these comrades of their own choosing, we may, some time when we feel like it, say a little about some of the positions advanced at the April 9th meeting of the association. If we say anything, it will be from a sense of duty to our younger professional brethren, and not, certainly, from a desire for controversy on this hackneyed subject.

W.

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#### REFORT OF DISCUSSIONS.

Our report of the discussions of the late meeting of the Mississippi Valley Association falls far short of justice to the society, or to its members as individuals. The report was written out during the premonitory stages of an attack of fever. It had to be written under such circumstances, or not at all.

W.

#### A NEW DENTAL COLLEGE

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Is organized at New Orleans. We have a personal acquaintance with two members of the Faculty; and, unless we are deceived in our reckoning, they will not be found wanting. The Faculty is, to a good degree, composed of alumni of the Ohio Dental College, and, therefore, should be competent, and ought to succeed. There is room for a dental college in New Orleans.

# "IN ALL THY WAYS ACKNOWLEDGE GOD."

The meetings of the Kentucky State Dental Association were opened with prayer, in accordance with the worthy example set by the late President of the Mississippi Valley Association, Dr. Atkinson. It is certainly becoming for those in search of wisdom to look to the Source of all wisdom—for those in pursuit of knowledge to recognize their dependence on the Author of all knowledge. "Ask and ye shall receive."

#### THE

# DENTAL REGISTER OF THE WEST.

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# Original Essays and Communications.

### THE AMALGAM QUESTION.

WE promised, when we felt like it, to say something on the "Amalgam" discussions in the Pennsylvania Association of Dental Surgeons. We are reluctant to say anything; for our brethren of the said association appear to delight in the luxuries of incredulity in regard to some of the plainest teachings of science, and it is a pity to mar their enjoyments. Incredulity is a nice thing sometimes, and sometimes belief is a bore, and faith a fancy.

Although the fact of metallic poisoning is as well established as any other, yet all classes incline to disbelieve it to the extent of their own personal interest in its truth. The painter believes that the oxyds and salts of lead are poisonous, and that many of his craft are injured by them; but he does not believe that he is in any danger. He regards himself as cautious and cleanly, and, therefore, safe. He may believe that his comrades are poisoned, but he is not. He is only a little nervous, and is rather costive, or has eaten something indigestible, and has colic. The margins of his gums are bluish; but that is because his blood circulates badly. He has seen many such cases; and to prove that lead has "nothing to do with the trouble existing," he keeps right on at his business. The printer believes that both lead and antimony are poison-

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ous; but he handles the types with a thorough conviction that they will not poison him. When he becomes nervous and pale, he thinks it possible that confinement disagrees with him; and, though his pallor is not like that of other pale men, he imagines that printer's ink may cause the difference. Gilders, miners, and even chemists, practically incredulous while theoretically believing, often reason in the same way, and it is not, therefore, marvelous that our brethren of the Pennsylvania Association are practically incredulous in regard to the poisonous effects of mercury and silver. This is one way by which they manifest their humanity. "Ye shall not surely die" was a popular doctrine, as far back as the days of Mother Eve's horticultural experience.

On the evening of April 9th, 1861, as we learn by the May number of the Cosmos, the President of the association announced "Amalgam" as the subject for discussion. Dr. Pierce opens cautiously, manifesting a desire to speak favorably of the article under consideration, but seems fearful of misrepresentation by those who "are constantly attributing results to it that are due, not to the amalgam, but to its improper use," and "those who, unable to perform a successful operation with gold, are eager to seize upon any remark in favor of a plastic material as an apology for their own empirical conduct." This last is certainly worthy of consideration; for all quackdom shouts at the very thoughts of the May number of the Cosmos. It matters not to the quack that the said number contains much valuable matter. It contains an endorsement of his pet paste by the Pennsylvania Association of Dental Surgeons. That is glory enough for him; and he drinks in consolation accordingly.

The report, as a whole, is an interesting specimen of special pleading in behalf of the material under consideration—
"Only this, and nothing more,"—

yet it is amusing to see how little these brethren can find to say in its favor, and how little they really think of it, not-withstanding their eulogies.

A frontier preacher conducting the funeral services of a notorious outlaw, politeness and truth being both desirable, was at a loss what to say. "My friends," said he, "our deceased brother, like all things earthly, was perhaps not just all that he should have been. It is true he had horses, and he ran 'em. He had cocks, and he fit 'em. He had cards, and he played 'em. But after all, he was a very good man at a fire; and no man in these diggins ever cheated him in a hoss-trade." About such, when sifted, is the praise bestowed by our brethren on amalgam.

Dr. Buckingham uses it "sparingly." Dr. McQuillen has a hopeless prejudice against its use. Early prejudices have led Dr. Fitch "to look with considerable suspicion upon amalgam as being, in any sense, a proper material for filling all classes of teeth." Dr. Flagg once had a severe attack of "the prevailing prejudice" against it, but has quite recovered. In six years he has seen amalgam plugs "in many hundred mouths," which proves that vice seen too oft, if not pitied, is at least embraced. Dr. McGrath never was "imbued with any prejudices against" it. He escaped the disease entirely; and that, too, it seems, without vaccination.

It appears that none of these brethren use amalgam indiscriminately. Dr. Peirce, under no circumstances, would use it in the front teeth, "believing that the preservation of their beauty is as essential as subserving the purpose of nutrition;" and he tells us that "in the largest proportion of teeth that are filled with it, their good appearance is completely sacrificed." Dr. Buckingham uses it only "in certain cases;" but the report fails to tell us why he repudiates it in uncertain ones. Dr. McQuillen would use it only in "teeth which it would be impossible to fill with gold foil, and yet too valuable to sacrifice." He would not use it in all, because he can not "entirely free himself from such prejudice, so as to use it indiscriminately," and because "it not only required more skill, but also afforded one more satisfaction to introduce a good gold filling, and such practice was by far better calcula-

ted to enable one to establish a high reputation as an operator." These reasons are, no doubt, good and valid, in the present case, but if any operator is already freed from "such prejudice," and his reputation is as high as is desirable, he may, possibly, find as much satisfaction in using amalgam indiscriminately, as in introducing good gold fillings, and if it is important that he should exercise skill, for the mere sake of skill, he can spend the time gained by such indiscriminate use in stuffing butter into a gimlet hole "with a hat awl." When prejudice restricts the use of anything so valuable as amalgam appears to be in the Pennsylvania Association, it should be laid aside.

Dr. Fitch seldom uses amalgam, "and then never in any but molar teeth very much decayed." Now why? Dr. Fitch. Do tell us. Dr. F. claims that it can be readily adapted to the walls of the cavity so as "to exclude all foreign destructive agencies "-that the objectionable discoloration is probably due to "the impurity of the materials, or to the presence of their oxyds, or the manner of their combination." He infers all this from the fact that he finds "no free or combined acids" in the mouth capable of acting "to any extent upon pure mercury or silver." Indeed! But does Dr. F. not know that oxygen and sulphur, both found in the mouth, act directly on both these metals, without the intervention of an acid? Moreover, he tells us that the mercury of commerce is "quite impure, and the silver usually very much oxydized at the time of using." Well, really! The secretions of the mouth can not act on the silver, but something (in the atmosphere, perhaps,) oxydizes it so readily that oxydized silver is generally used in preparing amalgam! And, again, he tells us that "coloration may be due to galvanic action, induced by the saline secretions of the mouth, in the oxydation of one of the baser metals." Tell us, Dr. F., which two of the metals are baser, and then we will know which one is base. And tell us, too, how to arrest the galvanic action, when there are "saline secretions" in the mouth, before it has time to produce coloration. And tell us what kind of people, and in what kind of weather they do not have "saline secretions in the mouth."

Dr. McGrath uses amalgam whenever he thinks it "necessary." Good! for him. He can pass; for that is the way we do. But we have never used it yet.

Dr. Flagg "does not use amalgam from choice, in any teeth except molars." And we protest that it is very wicked for anybody to compel him to use it in any others. He used to have two objections to its use; but by the help of Dr. Garretson, and some salt, " he had been able, in a great measure, to do away with" one of them. The remaining one is "the failure to preserve the teeth in plugging certain cavities," which is rather a serious objection, and one beyond the reach of salt, we fear. Dr. F. finds that amalgam fillings on the proximal surfaces of teeth fail "in a comparatively short time," while upon the articulating faces of molar teeth, they do "better service than anything except the very best gold plugs, and equaling even these, as far as six years' proving could testify." And in comparing amalgam with gold for filling such cavities, especially when large, "he thought the argument was decidedly in favor of amalgam; for while it saved teeth as permanently as the very best gold plugs, it was introduced with much less of disagreeable manipulation, less irritation, less consumption of time, less expense, and was so nearly the color of the tooth as to be scarcely noticeable." Now, if these claims are all well founded, gold should be abandoned; for, if amalgam is as good as gold in large cavities, it is better in small ones, and if decidedly preferable on articulating surfaces, it is certainly as good in proximal cavities; for it is as much exposed to chemical action in the one place as in the other. And if it is so nearly the color of the tooth as to be scarcely noticeable, it is the very thing for front teeth, and should, by no means, be restricted to molars. And if it is so reliable that in six years it is affected just none at all by chemical action, in twelve years it will be affected only twice as much, which will not be serious. We protest that the friends of amalgam treat it shabbily. Come, now! Give it a fair chance. If it saves the frail teeth with the large cavities—if it saves the unfavorable cases as well as gold does the favorable ones, what wouldn't it do in firm teeth with small cavities? It would heal up the holes and "hair them over" in less than a week.

But the discoloration—that's the bugbear—the hobgoblin that haunts the imaginations of our friends of the Pennsylvania Association. We are all superstitious—are the worst frightened at that which is the most mysterious. And our friends (most of them, at least,) appear to be in a quandary as to the causes of the discoloration, and are, therefore, more concerned about the looks of a tooth than the health of a patient. Dr. Flagg comes to the rescue, however, and the ghost is laid. He removes and prevents the discoloration, by triturating the amalgam with common salt, and afterward washing it. "Salt is good." Blessed be the man that invented it! A cenotaph to his memory! Who heads the subscription? But, poor man, he didn't know it all. He knew how to "save his bacon;" but our friend can keep a nastier thing than swine's flesh from spoiling. May his countenance be perpetuated in marble. Who'll bust him?

But we ought to be serious over this salt and water process, and would be, if it amounted to anything more than a mere removal of the oxyds necessarily formed during combination, which can be accomplished as effectually, and almost as readily, with water or alcohol.

These brethren of the Pennsylvania Association use, substantially, the preparation called "Townsend's Amalgam;" though just why it is called Townsend's is hard to divine, since Dr. T. set up no claim to originality in regard to its preparation, but obtained the formula, we are sorry to say, in the West. But there is a funnier thing than this. Why did not Dr. Townsend obtain as satisfactory results with this amalgam as these brethren report, when he prepared and

introduced it as carefully and perfectly as any can claim to do now? Why did he obtain such results that he found it necessary to make a public recantation of almost everything he ever claimed for it? Was he entirely mistaken about it when he said that in cases where he most relied upon it, and expected to have the best results, it entirely failed? And why should not these brethren, who so blindly followed Dr. T. when he went astray, follow him back, when he so promptly and manfully returned to the paths of scientific truth? We protest that if the sheep do jump into the sea, because their blinded bell-wether falls over the cliffs, if he bravely swims out and returns to the pasture, they ought to follow him.

Amalgam cement used to be made of mercury and silver. Various other metals were recommended as ingredients. The old silver amalgam long since had become very unpopular. It was regarded as a black spot on our professional escutcheon. And what is this that is to be dubbed respectable? Is either of the base metals of the old formula discarded? Not at all. They are simply rendered respectable and perfect by the addition of another base metal! An ox-driver, who fancied his team was not just the ton, hitched a mule in front of them, and concluded all was right; but he found that his cart was still a slow coach. So these brethren, not satisfied with silver and mercury, add tin; but they find the hated black spot still there, in spite of all their tin-kering.

Dr. Flagg tells us-or rather the report tells us that the Doctor "remarked that the discoloration of amalgam was superficial, and that it was oftentimes possible to restore the beauty of a tooth by simply removing the amalgam plug and excavating the darkened portion of dentine." That might answer, sometimes, and is worthy of attention. The idea has quite a range of application. If the entire tooth becomes discolored, pull it out,—if the entire head, cut it off; and if the patient's complexion becomes darkened by the oxyd of silver. the discoloration, being "superficial," can be removed by

"simply" skinning him.

This paper is already too long. We will, therefore, close; and, if in the mood, we will, at another time, say something in regard to the causes of discoloration, so annoying to our friends, and perhaps notice some of their answers to objections made against the use of amalgam cements. We look upon this report as calculated to be cloud and lead astray the minds of the more youthful in our profession, and this is our only apology for bestowing on it so much more attention than it really merits.

### DIVERSITIES IN DENTAL PRACTICE.

BY J. TAFT.

OWING to a want of a uniform method of instruction, and ample text-books—the former depending upon the latter to a great extent-dentists have not succeeded in obtaining such a uniformity in practice as would be desirable. has, to a great extent, been compelled to carve out his own course; this is especially manifested in the practice of the profession. It is true that the profession of dentistry is comparatively new. There has been and still is much indecision as to the best method of performing many operations. Every one has, to some extent, been an experimenter, endeavoring to obtain the great desideratum, viz.: perfection of operation. This has been as assiduously pursued by the unlearned in the science of our profession, as by those who have the greatest attainments in this respect; though not with the same results. The former will take up a new idea or mode of practice, and claim for it at once all imaginable merit; while the latter carefully brings out his discoveries and modes, and fully tests them by principles which he knows to be infallible. The former upon making discoveries in art and the manipulations pertaining thereto, is liable to be assuming, and arrogate to himself far more than he should; while the true man of science is always modest and unassuming, whatever discoveries

and improvements he may make. The former thinks they are his own creation, or at least his own unassisted productions; while the man of science knows that he is at best only unfolding and bringing to light that which was laid up in the archives of science and eternal principles; that he is only making new applications of principles as old as the world. It is just and proper that any one should feel gratification when he has been the instrument of making new and useful developments.

The diversity of methods in dental practice still exists, though not to the same extent as formerly. In some respects this diversity of practice is unfortunate, in some particulars it may be advantageous. Most persons, upon adopting a particular of practice, think it better than any other; and particularly is this the case if the person has an interest in the matter by way of discovery or production. It is strange with what tenacity many operators will cling to methods with which they are identified, even when far better are presented. This is often illustrated by instances where men refuse to see the imperfections of their methods, or make any possible palliation for them.

Some seize hold upon some particular method or thing, and refuse to employ or even to examine any other. It is always pleasing to see any one hold fast to that which is good, but that should not prevent from taking another which is just as good, or perhaps better. We think the true plan is to take everything that is valuable, and employ each when it is most available.

These diversities in practice exercise a pernicious influence upon patients; they are as apparent to them as even to dentists themselves. The remark is often made by patients, "Why, you fill my teeth differently from my former dentist, or you do this or that in quite a different manner." Every dentist is familiar with such expressions. There are quite different methods of treating such expressions and impressions. Some will remark something in this wise, That there

are more good methods than one of performing an operation, or perhaps another performed an operation under very different circumstances, and in very dissimilar cases. Such a course will be pursued by the true professional gentleman. Others will reply to such remarks of a patient, that his is the only proper method of accomplishing the work, or at least it is better than any other, and that others are only efficient as they approximate his method. With one making such remarks, a patient of common sense will become displeased and disgusted. It is thus that odium is brought on the profession.

Perhaps some good has grown out of these diversities of practice. Every one, under such circumstances, would seek to bring his own peculiar mode to the utmost degree of perfection; especially when he is to some extent identified with it.

Among those with whom there is a disposition to a free interchange of ideas and opinions, the diversities of practice will be exceedingly valuable.

A crude, shapeless idea, in its passage from one mind to another, may and often does receive a brilliancy, illumination and expansion that will at once transform it from chaos to a thing of beauty and usefulness.

The disadvantages that usually attend diversities in practice might be so controlled and modified as to be almost robbed of their power, and again, the occasion for them becomes continually lessened as the profession arrives nearer the true method of accomplishing its work.

# Proceedings of Societies.

### INDIANA STATE DENTAL ASSOCIATION.

Indianapolis, Jan. 2d, 1861.

Indiana State Dental Association met in the room of the Young Men's Christian Association, at 2 o'clock, P. M., 1st Vice-President, Dr. P. G. C. Hunt, in the chair.

Dr. Jno. F. Johnston, of Indianapolis, announced the death of Dr. C. A. Harris, of Baltimore, and Dr. John Hood, of Greensburg, late a member of this society—whereupon, Drs. Johnston, J. F. Canine, and P. W. Morris were appointed a committee to report resolutions expressive of the sentiments of this body in relation thereto.

The minutes of the last session were read.

The Committee on Order of Business reported:

I. Election of new members.

II. Reports of Committees.

III. Reading of essays, and remarks on the same.

IV. Discussions on the following subjects, in regular order:

- 1. Treatment of the fangs of teeth, preparatory to filling.
- 2. Preparation of the gold and the best mode of introducing it into the fang.

3. Filling ordinary cavities.

4. Mechanical Dentistry in all its various branches.

V. Miscellaneous Business.

VI. Election of Officers for ensuing term.

The report was adopted.

The Secretary made his annual report, which was concurred in.

The Treasurer made his report, which was referred to the Auditing Committee.

Dr. W. H. Atkinson, of Cleveland, Ohio, who was present

by special invitation, was, on motion, elected to honorary membership. The Doctor responded his thanks in a laconic and interesting speech.

A colloquial and interesting discussion was then had upon the different topics, eliciting much valuable practical information, though few new ideas of importance.

On account of the small attendance of members, owing to a misunderstanding as to the time of meeting, much important business was passed over.

At the request of the association, Dr. Atkinson read an essay on the subject of labor. The thanks of the association were voted to Dr. A., and a copy of the essay asked and obtained for the archives and for publication.

A letter from Dr. Jno. T. Toland, of Cincinnati, was read, also, a despatch from the President, Dr. J. Knapp, of Fort Wayne, regretting their necessary absence from the meeting.

The following reports were read and unanimously adopted:

"Whereas, the death of Prof. Chapin A. Harris, of Baltimore, has made the heart of every member of this association, and, as we believe, the entire dental profession, feel sad; and, whereas, we have always regarded Dr. Harris as the great leading spirit in placing our profession in its present honorable position—his works being text-books for us all—we with sorrowful hearts desire, while paying this last sad tribute of respect, to acknowledge our indebtedness as a profession, and give expression to our feelings of veneration and esteem: therefore, be it

Resolved, That we deeply sympathize with his bereaved and sorrowing family; and as members of the same profession, acknowledging Dr. Harris as its head, we feel that we may with propriety offer this our sincere condolence.

Resolved, That inasmuch as his various works on Dental Science, and his self-sacrificing devotion to his profession are known to every legitimate practitioner thereof, it would be a work of supererogation for us to attempt to enumerate them. He has left ample evidences of his great ability, and an unselfish regard for his profession and humanity, which will, without our intervention, be gratefully remembered by all,

and separately by every intelligent practitioner of dental

surgery or medicine.

Resolved, As further evidence of our appreciation of the deceased, that the sum of ten dollars be contributed by this association to the "Harris Testimonial Fund."

Resolved, That a copy of these resolutions, signed by the committee, and attested by the officers of the association, be forwarded to the family of the deceased, and be also copied entire into the Minutes."

JOHN F. JOHNSTON, J. F. CANINE, P. W. MORRIS,

"Whereas, Death has assailed the circle of our association, and removed therefrom our highly esteemed professional brother, Dr. John Hood, of Greensburg, Ind., thus depriving us of the pleasure and benefit of association with a good and true man—a good and true dentist,—who was social, honorable and fraternal; and whereas, we, as an association of whom Dr. Hood was one among the first to identify—missing him much, and sincerely lamenting his early removal from a field of usefulness which his whole neighborhood attest he was cultivating with all his strength and ability: therefore,

Resolved, That the profession, and all those who came in contact with him, have cause to mourn his loss, not only out of feelings common to humanity, nor because of his professional excellence; but because he was a good citizen, in short, a useful, exemplary man, whose place his neighbors will find

it difficult to fill.

Resolved, That we tender our warmest sympathies to the friends of the deceased, by instructing the Secretary to transmit to them a copy of the foregoing preamble and resolutions—and further Resolved, That they be copied into, and made a part of the record of the proceedings of this association."

JOHN F. JOHNSTON, J. F. CANINE, P. W. MORRIS,

On motion, the Secretary was instructed to draw on the Treasurer for the sum of ten dollars, and forward the same to the Treasurer of the "Harris Testimonial Fund," as contemplated in resolution.

The following officers were then elected for the ensuing year, to-wit: Dr. P. G. C. Hunt, of Indianapolis, *President;* Drs. Canine of Columbus, Moore of Lafayette, and Morris, of Greensburg, *Vice-Presidents*; Drs. Johnston, Hunt, Smith, Canine and Moore, *Delegates to National Association*; and Drs. M. N. Manlove, Morris, H. R. Hurd, Webster, and Knapp, *Contingent Delegates*.

Adjourned till 7½ o'clock.

7½ o'clock, P. M.—The Auditing Committee reported the books and accounts of the Secretary and Treasurer are correct.

Several bills were presented and ordered to be paid.

The thanks of the association were voted to the officers of the Y. M. C. Association for the use of their room.

On resolution of Dr. Johnston, the Constitution was so amended as to provide for semi-annual instead of annual sessions.

And the association then adjourned, to meet in the city of Lafayette, on the second Tuesday of July, 1861, at 2 o'clock, P. M.

J. B. Smith, Rec. & Cor. Sec'y.

# Selections.

A MILL FOR THE TOOTHLESS.—A little machine, intended for those who can not properly masticate their food, is advertised in the Lancet. It is fastened to the dinner-table, and minces the food very finely. We can imagine a table set with these labor-saving contrivances for the benefit of those who are toothless, or are too lazy to chew, and a party of grannies dining with motionless jaws, and simply turning a crank. The next inventive effort of the originator should be directed to an apparatus for mechanical swallowing, provided with a mould for the bolus, ramrod, etc.—Medical and Surgical Reporter.

PRACTICAL HINTS .- By J. D. White .- Tidiness of the dentist is one of the first things which it is his duty to study, and yet it would seem, from many circumstances, that the subject does not receive much attention. Writers have not given it as much consideration as many small mechanical matters which any one's own judgment would properly decide There is a kind of law regulating the tidiness or manner of serving a patient, while in the presence of a dentist. as any other thing we do in life; hence there ought to be some kind of rule laid down, or understood, for the consideration of the dental student, and such detailed hints given as to afford him some kind of guide to be governed by, else he may run from one extreme to another before he knows what he is about, and become disgusting by his own uncultivated inclinations. Manners on the part of the dentist, when he is about his patient at the operating chair, is as essential as proper behavior at a dinner-table; and we are sure a great deal has been said by authors of large abilities on that subject. We do not pretend to hold ourselves up as without fault, or to dictate rules and regulations to others, but to refer to some things which would seem to strike the mind as selfevident, yet do not receive proper attention. A dentist in full practice has not the time for drawing-room formalities or all the courtesies of morning calls, nor does any one of common sense expect it; his office and waiting-rooms are places of business, and the majority of persons who call upon him are business people, or in haste from one point of duty to another; and it is not uncommon in these days of railways and steamboats, that well-bred persons commit the most uncivil and annoying interruptions at the dentist's office, for want of time to do better; so in like manner, the dentist, to make time for the patient in hand, is obliged to treat very summarily a patient making a first call, and incurs much censure by it; but good sense on both sides will make in such cases every allowance. It is better for the dentist so to act as to meet the good sense of the intelligent, than to waste time to prevent the ignorant or exacting from finding fault. Biography is said to teach better, perhaps, than anything else, how the good and great have achieved their most noble purposes in life; and while straight and hard lines seem to have marked their career, it is remarkable to see how every act is filled in with attention to the smallest things incident to their every duty.

By knowing others' faults, we should learn to correct our own. But to some details. It is essential that a dentist should have everything in his office to afford comfort and convenience to his patients. His chair should be comfortable and clean; he should place a large, clean towel over the head-piece of his chair, so as to extend a little way down the back; this should be removed as soon as it is in the least soiled, and in these days of youthful-looking hair, the changing will become frequently necessary; to place the patient's head against the plush of the head-rest of the chair, is not allowable. necessary that every patient should be furnished with a clean napkin and glass of tepid water—a little cologne is desirable, but some few persons can not tolerate it. The head of the patient should be so placed as not to touch the breast of the operator while operating, as it soils his dress, and is uncomfortable to the patient, especially in warm weather. which some dentists practice on, that the patient must endure every inconvenience for the time being for the convenience of tho dentist, is not good practice, or just in any sense. Whistling and humming tunes in the presence of the patient is vulgar in the extreme. Every dentist should even learn how to breathe while operating, because it is true that the breath is not always free from some taint in any one, and where it is habitually bad, it is very unfortunate. A great deal of annovance may be avoided by the operator breathing through his nose when his face is turned toward his patients while operating or in close proximity to them, or abstaining from speaking while in that attitude. A dentist to hold his mouth open and breathe full in the face of his patients while operating, is enough to suffocate them; and if there is the slightest taint of anything on his breath, it is intolerable.

A lady patient visited us a short time since from a great distance, leaving a good dentist; it was with difficulty we could wait on her, and we remarked how useless it was to put herself to such inconvenience when she had so good a dentist near her own home. "Oh, I got tired of the stench of old coffee-grounds breathed in my face all the time," was her

reply.

It is useless to enumerate the many articles of diet which affect the breath, which a dentist should avoid during operating hours. Tobacco and liquors in any form, as a matter of course, must be abstained from by every well-bred dentist, before approaching a patient, and every attempt to hide their

effects by artificial means makes the evil worse and the suspicion greater. If such habits have been contracted by any one before he adopts dentistry as a profession, it is most unfortunate.

Clean hands may be said to be one of the most important matters connected with the dentist's duties. Besides the necessity of having every convenience to wash his hands frequently, he should study how to prevent them from becoming offensive or soiled. The saliva of some patients becomes very unpleasant when exposed to the air, and when it gets on the hands, it soon renders them offensive; hence we always use a small finger napkin on the lips of the patient, to answer the double purpose of preventing the instruments from chaffing them, and keeping our fingers dry; we also keep a lock of cotton in the left hand, between the fingers, to receive the decay as it is removed from a tooth, to avoid getting it in contact with the fingers, as there is nothing so difficult to remove as the fetor of the decay of a tooth when it gets into the skin. We were present once when a dentist of distinction was operating, and saw him remove the decay from a tooth and wipe it on his finger, which disgusted us very much. The use of scented soap does not effectually remove such stench. We never use highly-flavored soap for the hands, as that in itself is eventually disgusting. Clean, inodorous soap is preferable. The nails on the fingers must be kept reasonably short, and clean.—Dental Cosmos.



ANESTHETICS.—It is unfortunately too well known that with the many advantages belonging to the administration of chloroform as an anæsthetic is linked the possibility of an occasional fatal result, even in the most careful and experienced hands. There are very many who maintain that this drawback does not attach to ether. They assert its entire immunity from danger, although there may be some persons to whom the odor of it is offensive and irritating. It is less portable and agreeable to inhale than chloroform, but not more exciting or less efficient.

Dr. George Hayward (the first surgeon who performed a capital operation upon a patient rendered insensible by the inhalation of sulphuric ether), during a recent visit to Europe,

instituted inquiries upon the point in question. Before his return across the Atlantic, he published some "Remarks on Anæsthesia and the Agents employed to produce it," in which he says: "I have not been able to find any well-attested case of death from its inhalation. There may have been such, but they have never come to my knowledge, though I have taken unwearied pains to obtain information on this point." In Mr. Ericksen's work it is affirmed of ether, that "no death has yet resulted from its use." The surgeons of Lyons declare that "since the adoption of ether in place of chloroform, the necrology of anæsthesia has not received an additional instance" in their city. Signor Palaschiano, of Naples, considers ether as infinitely safer than chloroform, in spite of the dangerous apparatus with which he administers it. Between these extreme schools of the belief in the perfect immunity of ether on the one hand, and its equal danger with chloroform without the latter's advantages on the other, has arisen a third party, which admits that ether is certainly not so hazardous as the other agent, but that fatal cases have occurred from its employment. They believe, further, that were ether more extensively used than it is, we should hear of a greater number of fatal cases from its inhalation. Ether is not employed as an anæsthetic agent to any extent in Great Britain and many parts of Continental Europe, but it is habitually used at Lyons and Naples, and is the only anæsthetic administered in the principal hospitals of the United States of America. We are informed that in the Massachusetts General Hospital at Boston, where it was first given, and has since then always been resorted to, no deaths have ever taken place, nor anxious apprehensions been excited, either during or after its inhalation.

An important question is, then, apparently undecided; and no means should be left untouched by which we may arrive at a definite opinion upon such experience as the profession has hitherto gained. The Boston Society for Medical Improvement has, we are glad to find, seriously taken up the matter, and has appointed a committee "to investigate the alleged deaths from the inhalation of sulphuric ether, and to report thereon." The vast interest attached to a truthful solution of the point at issue warrants us in urging our medical brethren to communicate to the chairman of the committee (Dr. Hodges) accounts of all cases which have already or shall hereafter come to their knowledge, in which a fatal issue

appeared to result from the use of ether. It will be essential not only that the place, time, and circumstance of its occurrence be noted along with the mode of inhalation adopted, but that specific attention be paid to the following points:

1. The kind of ether used—whether pure sulphuric ether,

chloric ether, or ether combined with chloroform.

2. The period after inhalation at which death occurred.— London Lancet.

DENTAL EMPIRICISM, PAST AND PRESENT—By Felix Weiss. M. C. D. E.—Although it can not be denied that the dental profession has made, of late years, great progress towards its permanent establishment as one of the most useful and honorable institutions of this or any country—(a progress not only in the art itself, but in the general education of its professors)—yet it is melancholy to reflect upon the degradation and selfishness which still attach to several of its members. "Go forward," says the first President of the Cincinnati Dental Association-"Go forward in the good cause, unintimidated by the scepticism of the faithless, the fear of the timid, or the apathy of the selfish." But to make that progress secure, we must have unity; and to make that unity respected, we must endeavor so to educate our members, and the public generally, that empiricism may not only be despised, but cease to be profitable.

Some fifty years ago, all that was needed to commence the practice of a dentist was unblushingly to profess yourself one -few, indeed, were those who, qualified by study and skilled by experience, conscientiously endeavored to carry it out in their every-day practice. The profession was regarded by the many simply as a money-making business, and had the great virtue of being novel. The public, at all times ready to be gulled, fostered the empiric, flocked to his house, paying him nearly any fee he might demand, -only too willing if he would undertake their case at all. Fifty years ago, an adventurer of this stamp (I take him as an illustration of his class) visited Paris, that he might pick up a smattering of this new and profitable calling. At the end of three months. returning to London, by specious advertisements, by well-gotup circulars, he soon managed to make himself known; his

establishments were multiplied, until at length he possessed several houses in London, and had travelers scouring the country for patients in every direction. It is not our office to rake up the grievances of the past, excepting so far as they may be profitable to pointing an example for the future, but the statistics afforded by these notorious empirics are worthy a moment's reflection. The ordinary charge for a set of teeth was one hundred guineas, and it is notorious that in some instances more than twice that amount was demanded; all other charges were in proportion, a common price being five guineas a tooth. Lotions for the gums were made up and sold at one and two guineas a bottle, and boxes of powder at similar ex-

orbitant prices.

Now, if in return for these enormous fees the work had been really well executed, some excuse might have been pleaded, as the science was young and its professors greedy; but, to a certain extent, any rubbish was put into the mouth badly-fitted plates of gold and silver, marvelously stinted in quantity and disgracefully low in quality, with ill-adapted blocks of bone, and sometimes natural, but more frequently carved teeth. The object of the empirics was to see a patient but once, and make as much as possible out of the first transaction. The class of patients that visited them were for the most part rich, and moved in the best society; indeed, some of the highest members of the nobility. The stratagems resorted to by these harpies would alone fill a volume. Carriages were hired to be continually driving up to their doors, and there to remain, two or three at a time. Well-dressed visitors were paid to fill their waiting-rooms, and to expatiate upon their skill; entertainments of all kinds were given, while their well-worded books and gilt-edged circulars found their way into every house, and their advertisements into every paper.

Can it be wondered at that, with all these auxiliaries at work, the receipts netted by some amounted to as much as £30,000 a year? Can it cause any surprise that the name of dentist was associated with wealth? But it will be equally apparent that such proceedings were gradually bringing the whole body into disgrace; distrust was creeping over the public mind, the word dentist became a questionable title, and even twenty years afterwards, when many able men commenced practice, they were hardly received with anything

like the respect attached to other professions.

Having now glanced at the dental empirics of the past, let us for a moment examine those in practice at the present day; and we fear that while doing so we shall be compelled, with sorrow, to admit that their character remains unaltered. Is it not notorious that monied men are entering the profession. employing workmen and assistants, and setting aside large sums for the purposes of advertisement, etc., who possess not a scintilla of professional knowledge; and that the public patronise them as of old, pay them heavy fees, robbing in the greater number of instances the honest practitioner, and injuring the public mind? But, after all, the question naturally arises. How is this to be avoided? Educate the public, and let every enlightened member of the profession in his private capacity take every opportunity of impressing upon society the necessity of a charter, with its pains and penalties, and endeavor to inculcate a thorough distrust in advertised ability.

Let us now inquire what constitutes dental empiricism; and we shall try to prove that all systems of obtaining practice, excepting through recommendation, is alike disreputable and dangerous to society. Advertisements may be divided into two classes—inoffensive and offensive. The inoffensive advertisement is simply a change of address, or a card. The offensive is full of professions for the most part untrue, and assertions intended simply to attract attention; -such as the exclusive use of patents where no patents exist; the possession of valuable preparations, it being well known that the materials used in dentistry are alike open to all; methods of construction under a variety of names, assumed to be only in the possession of the advertiser. We have likewise a series of stereotyped phrases, so grossly untrue that no one possessing one spark of integrity would allow their names to be attached to them; the phrases being not only opposed to scientific experience, but even repugnant to common sense.

The advertiser depends upon his advertisements; and herein lies the grand distinction between him and the honest practitioner. The empiric never desires to see his patient a second time; the advertisement that brought the dupe of to-day will bring him another to-morrow. The non-advertiser feels that his reputation—indeed, his very existence—depends upon his acting honorably to his patient. He can only increase his connection by the recommendation of one to another. The patient may feel confidence that he is dealing with a man who

lives only by his good name; not so the advertiser, however honorable he may be (and we will allow they are not all dishonorable),—he obtains his patients in so questionable a manner, that his skill must at all times remain doubtful. If he is a clever man, what need has he of advertisement at all? Ability will sooner or later meet with some amount of recognition; therefore the dentist who requires advertisement must necessarily be the inferior practitioner, executing the worst work, relying upon his advertisement, without which he would

be without patients, as he is without skill.

The answer to much that we have advanced will be, that the private and high-priced dentist (as the empirics will term him) demands higher fees, and complains at the charges made by the advertiser. This we unhesitatingly dispute, and freely declare that the charges, on the whole, made by the private practitioner are, if anything, less than those of the empiric. It is true, he will not condescend to operate after the advertiser's fashion. Stopping a tooth is not merely filling it with any description of paste; and artificial teeth should possess some amount of finish,—the cheapest not being always considered by rational beings the best. Again, the advertised prices bear no proportion to the prices really charged, excepting in a few solitary instances; for if a man can afford to spend from £200 to £2,000 a year in advertisements, his profits must be obtained from some one.

The organization of a Dental College and the formation of • a Dental Society are not calculated to check the empiric, excepting in as far as they educate the general public. A vast number of young practitioners have been accustomed to send out a few circulars; but upon joining these bodies they have discontinued doing so, advertising being opposed to the laws they have subscribed to; so that the empiric has even a larger sphere of operation than he had before the formation of these societies. And this is one of the grand reasons why we should pray for a code of pains and penalties. Men who are honorably endeavoring to make a position, feel acutely the injustice done to them by the public, and, but too frequently, seeing the success that attends the advertising charlatans (no matter how inferior their ability), are led to join them. Upon these arguments we found our conviction that dental advertisements are injurious to the public, and ought in every way to be discountenanced.

Another mode of gaining notoriety, or, more correctly

speaking, of attracting attention, i. we must also unhesitatingly condemn -The show-case does not necessary work executed by its exhibitor. Eve aware that these cases may be obtained work in all styles. But even granting professes to be, it does not follow, howe executed, that such work will fit the mouth with comfort. Some may argue that the sha than the shop-window, in which is exhibited of the artificer. But the cases are widely different. we may see a chair or a table, a piece of jewellery or a garment, exhibited for sale; we can purchase the chair and place it in our rooms. But such is not the case with a set of teeth. Every customer must be separately fitted, and in no instance could the dentist remove from his show-case a piece of work and transfer it to the mouth of a strange patient. We know that many regard the show-case as simply emblematic of the dentist's calling; but upon these grounds we should excuse the exhibition of a golden tooth or a gigantic pair of forceps.

We have penned these few lines in no malignant spirit, but have endeavored to bring forward undeniable arguments in support of our views. To the younger members of the profession, those fighting (perhaps despondingly) the battle of life, we would remark that the advertising empiric's successes are not now what they used to be; every day, every hour, the public are becoming better informed, and we sincerely believe the day is not far distant when the empiric will cease altogether to be patronised. Let the young practitioner, though he possess but half-a-dozen patients, do all in his power to convince them that he is thoroughly conscientious; let him also take every opportunity of increasing his store of knowledge; and in the end he will have little or no cause to complain, though his neighbor disreputably canvasses his position inch by inch. Many have tried by advertisement to obtain more rapidly a connection, but have since returned to the true walk of a respectable practitioner, bitterly lamenting their folly.

To those already advertising, we would inquire whether it were not better for them to cease to do so before it is too late; to gather together what connection they possess, and save themselves the thousands they expend, while lowering themselves in the eyes of their professional brethren.

lives n conclusion, to all we would express our conviction that by unity, energy and perseverance, the public mind will become so enlightened, that dental empiricism can no longer exist, and that every one endeavoring to carry out this good work will deserve not only the thanks of the profession at large, but of every right-minded member of society.—Dental Review.

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DISEASES OF THE MOUTH.—Anomalous Tumors.—By Jas. E. Garretson, M. D., of Philadelpeia.—Not unfrequently there may be seen standing, isolated and alone, on some portion of the dental arch, most frequently, however, either on the anterior portion of the interior arch, or the posterior portion of the superior, a yellowish-looking tumor, which might not inaptly be compared to a shell-bark covered with inspissated mucus. Sometimes this tumor will be found quite firm in its position, seeming, indeed, as if it might have sprung from the socket of some long ago extracted tooth; at other times you will be able to move it quite freely, as if it had fleshy peduncles. These tumors give to the patient a most disgusting appearance, are insufferably offensive, and so detrimental to health, that five or six grains of their substance, given to a small animal, will not unfrequently cause its death. The composition of such tumor consists of phosphate and carbonate of lime, epithelial scales, inspissated mucus, and the various debris of a cavity devoted to mastication. In other words, they are salivary calculi. The nucleus of such a growth is, of course, a tooth. The manner of formation is too evident to need description. I have removed these calculi, where the nucleus had become so encysted, from crown to apex, that no trace of it was to be discovered without dividing the mass. Where, however, the encystment has advanced to this extent, the tumor is about ready to drop from the mouth of its own accord.

I have seen a calculus of this kind encyst the six lower front teeth, making as strange a looking tumor as could be

well imagined.

Similar calculi develop, as may be inferred from my last paper, in other parts of the mouth. Thus, just within the orifice of the duct of Steno they may, occasionally, be found; the tumor, in such a case, bulging out from the cheek against the second molar tooth of the upper jaw. The formation of such tumors, in these situations, does not necessarily imply the closure of the orifice of the duct, but they form when the gland is sluggish, the secretion not being in sufficient abundance to hold the lime of the saliva in solution until it is ejected from the duct, it thus falls on the flow of the duct,

and, lodging, makes the nucleus.

I remember, on one occasion, to have been called by a fellow practitioner to see a case where a mass of this calcareous matter, quite the size of the largest almond, seemed to be growing from all that portion of the sublingual region anterior to the gland of that name; one-half the tumor looked as if it might be below the level of the floor of the mouth, the mucous membrane enveloping the mass with ragged and ulcerated edges. It certainly presented a very strange and threatening look. My friend was deceived as to its character, because there was no apparent direct association between the tumor and the neighboring teeth; and because it was as firmly fixed as though it might have been a growth springing from the neighboring bone.

But yet it was a salivary calculus, and nothing else, the

only question being as to its cause and fixedness.

Looking about the mouth, I perceived that the patient had certain artificial teeth on the left side of the arch, these teeth were all coated with tartar—salivary calculus—and so associated thereby with the natural teeth as to be only distinguishable by that difference in the translucency so immediately noticeable by any one experienced in such a direction. Knowing well that it is a plan with many dentists to secure such teeth by passing a strong gold wire across the mouth, and which wire not unfrequently buries itself within the mucous membrane, thereby occasionally concealing it, I inferred at once that such a wire would be found the nucleus of our calculus, and directed an examination accordingly. This examination was commenced by cutting away the calculi from about the artificial teeth, and, as anticipated, the band of wire was revealed; next was sought the concealed attachment of the opposite side, and this being discovered and exposed, the two ends were forced from the teeth which they clasped, and thus the artificial teeth, wire, and calculus were lifted from the mouth in a body.

The site of the calculus, as may be inferred, presented a cup-shaped ulcerated depression, and was quite angry looking.

The only after treatment consisted in the use of an astringent wash. The ulceration healed kindly in a very few days.

I may be allowed to suggest to the physician, that the existence of such calculi is not an unfrequent cause of dyspeptic and other alimentary troubles. I have just now, in my mind, a case of dyspeptic consumption, of which, truly, it might have been said "physicians were in vain," the patient having tried every class, from the professor down to the quack.

In her mouth she had but a single tooth, and this for years had been so imbedded in salivary calculus, as much more to resemble the half rotted shell bark than a tooth—her breath was made insufferable by it. I removed the offensive mass, and the recovery of the patient was really magical in its rapidity.

Such calculi are to be removed in any convenient manner; they may be pulled away, broken away, or, when loose, may be cut from the gum; the operation being entirely a mechanical one.

I forget, however, in such advice, my reference to calculi situated in the duct of Steno. These are to be removed, either by enlarging the duct and crushing the stone, or otherwise by cutting down upon it at the most convenient point. When so cut down upon, the wound will not commonly require any after attention.

There is another class of anomalous tumors sometimes to be met with in the mouth, and which, of all diseases of this cavity, are, perhaps, most simple, and yet most often misunderstood. I allude to fungoid excrescences from the tooth pulp. These tumors, frequently misnamed epules, fungus hæmatodes, etc., grow most commonly from cavities in the molar teeth. When not overhanging the walls of the tooth, their nature is, at a glance, of course appreciated; but sometimes the growth is so extensive as not only to overhang the tooth, but to completely conceal it, the morbid mass moulding itself over the gum. Here it simulates epulis; yet the practitioner will not be deceived if he remembers that epulis is a growth from the periosteum, while the mass can be lifted from the gum at any point of its circumference.

Its likeness to fungus hæmatodes consists alone in its external features, certainly not at all in its history. Such tumors, bleeding, not unfrequently, at the slightest touch, while they possess the *noli me tangere* quality, the result of the constant irritation to which their situation necessarily

subjects them. These tumors are wholly benign, and perfectly amenable to treatment.

The reader has, without doubt, seen a carious tooth, the cavity of which was, more or less, filled with a fleshy growth.

This is the pathology of the tumor I have described.

Such a growth may, perhaps, be observed to exist in one out of five hundred decayed teeth, certainly it is not more frequent than this, particularly if we except the deciduous teeth; but the expansion of this fungus, so as to cover the tooth, is still so much more trare, that there are, I imagine, few practitioners who have ever had the opportunity to see the condition.

The dental practitioner, who is the one most apt to be consulted in the more limited form of the affection (that is, where the fungus is confined to the cavity of the tooth,) treats it most successfully by an application of the arsenical paste—the formula of which I gave in the paper on "Anomalies." A portion of this paste, say a piece the size of a pin's head, is laid directly on the tumor, and being covered in with wax, or a pledget of cotton, is allowed to remain from twenty-four to forty-eight hours. After the lapse of this time—the vitality of the growth being destroyed—the mass, including all that pertains of the pulp which is enclosed within the fangs, may be easily and painlessly removed. The diseased tooth, after a little medication, may not unfrequently be plugged and made useful for a considerable time.

When, however, the disease has so progressed that the tumor overhangs the tooth, let the remedy be extraction. Now, although I am not unaware that such extraction is denounced as highly dangerous by authors who have written on the subject—a fear of unconquerable hemorrhage being held up for the staying of the hand of the operator—yet I feel free to pronounce, that any surgeon who has so written has never

practically known the disease.

It certainly is true, that these tumors, when in situ, not unfrequently bleed to an enormous extent on the slightest provocation, but it is not to be inferred from such bleeding, that the artery of the tooth is not in a healthy state just outside the foramen, or that it does not possess an amount of contractile force equal to that of any of its neighbors. When the tumor is cut, it has no power to arrest hemorrhage, because, from its fungoid character, it is almost entirely deficient in vital force. The blood which is being passed in it through

its arterial supply, may be said to drain away, just indeed as it would drain through a sieve until arrested through the mechanical influence of a clot which would be apt finally to form about the meshes of the wire.

Such authors as I make reference to, recommend the use

of caustics and ligatures.

As above, I recommend in these bad cases the extraction of the tooth. You had better have nothing to do with trying to save such teeth—there is a bad cachexia about them.

If there should be any one who, acting on my advice, finds that he has brought this trouble of hemorrhage on himself, he will find that he is entire master, by adopting the following

simple manipulation:

Take a common cork, and make in it a V shaped cut. Next, procuring the cellar cobweb, saturate it with some tonic astringent,—the cinchona rubra answers admirably,—stuff this into the bleeding alveolus, and placing the V cut in the cork saddle-wise, over the gum, hold it firmly in place by binding the gums together by means of a Barton's bandage.

En passant.—This little manipulation, if properly conducted, will place all hemorrhage from the alveoli of teeth completely under the control of the surgeon. The after-treatment

consists simply in leaving the clot to nature.

Very ugly, epulic-looking tumors are sometimes formed, the result of an absorption of the alveolar process from about the roots of the teeth. A sufficiently illustrative example is

recorded by Dr. Suesserott, of Chambersburg.

The Doctor informed me, in the course of a conversation I had with him, that on one occasion, being in the alms-house of a neighboring county, he was invited by the attending physician to look at a case of very rapidly advancing cancer in

the mouth of one of the women patients.

The tumor, as described by the Doctor, must have looked quite threatening enough. It occupied all the alveoli labial space, bounded by the canine teeth of either side, and overhung the teeth which lay posterior to it. It was very much ulcerated, dark and turgid, and bled freely on the slightest provocation. The diagnosis was fungus hæmatodes.

Curiosity prompting Dr. S. to push the fungoid mass back from off the teeth, that he might thereby examine its base, he was satisfactorily surprised to find projecting into the very middle of the tumor the roots of the incisor, from over which

the process had been absorbed.

Convinced that here was the primary lesion, he suggested the immediate extraction of these diseased teeth. The advice was acted on. The tumor, at once, began to diminish in size and formidableness, and in a very few weeks every trace of it had disappeared.

Mr. Smith, from whose clinical practice I have before quo-

ted, gives the following, in part, parallel case:

"Elizabeth H., aged forty, was sent from some distance in the country to the infirmary, Dec. 12, 1856, to be treated for what she was told by a practitioner was a cancerous tumor of the cheek. On examination, a tumor the size of a small chestnut was found with an ulceration of the mucous membrane, just filling the sharp edge of one fang of a carious molar tooth of the lower jaw, which was making its way from the gum. Being fully assured from former experience of many cases of a similar kind, that this was the sole cause of the tumor and ulceration, Mr. S. removed the tooth. The patient appeared again on the next clinic day, Dec. 17. The ulceration was healed, and the tumor gone.

Now I tell you, says Mr. Smith, if the cause of that tumor had been overlooked, no treatment of any kind would have been of the least avail, it would have continued, it would have increased, and gone on from bad to worse for months, and possibly for years, unless the tooth had been removed by

nature

Several years ago, one of my own relatives died a most terrible death from a cancerous tumor of the cheek, located

and aggravated by just such a ragged tooth.

It would seem impossible that a physician of any intelligence would overlook such a primary lesion, but in this particular case it certainly was overlooked, not only by one, but by many. Prof. Mütter, who operated on the case, was, as I have been informed, the first to point it out, but when, of course, it was too late.

More than thirty years ago (Braithwaite) Mr. Hey excised a malignant looking tumor from the tongue of a young country woman, a private patient of his; in a few days he was surprised to find that it had sprouted out as large, or larger than before the operation. Mr. Smith, who was called to examine the case, says: "On examining the tumor, which was dark, foul, and fungoid, and which bled at the slightest touch, giving great pain at every attempt to speak or masticate, I detected two broken incisors, the middle and left late-

ral leaning inward, and with sharp-pointed edges fitting into the center of the tumor. I was immediately convinced that these two teeth were the cause of all the mischief, and stated that opinion to Mr. Hey, who appeared doubtful. I said that he would not be justified in applying ligatures, or using any other means, without first waiting to see the effect of the removal of the two broken carious teeth. I never saw the young woman again, but was informed by Mr. Hey that the teeth were drawn, and that soon after the tumor disappeared, without any other means being resorted to.—Medical & Surgical Reporter.

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Chloroform.—A Suggestion as to the Cause of Fatal Results from its Inhalation .- There has been much discussion of late upon the fatality caused by the inhalation of chloro-We know several surgeons who will not use it under any circumstances. Within the last year we have met with three peculiar cases in which the patient seemed upon the point of suffocation. In the first of these a large spoon was near, which was seized and thrust into the mouth, and two fingers thrust over it to the throat. The depression and bringing forward of the tongue by this means caused an instantaneous gasp, and breathing was resumed. The other two cases were similar, the tongue being thrown back, closing the epiglotis; relief was given in the manner before described. While in Albany, a short time since, these cases were mentioned to Dr. Swinburne of that city. He said that not only had he arrived at the same conclusion, that death from inhalation of chloroform was in most instances caused by suffocation, owing to the tongue falling back and preventing air from entering the lungs, but that he had performed experiments upon dogs, and demonstrated it to be a fact. To one dog he had given one and three-quarter pounds of chloroform, and several times during its inhalation, respiration ceased, but was recommenced by drawing the tongue forward. said that respirations did not cease if steadily administered for a length of time, when the tongue was kept well forward. It is only necessary to mention the fact; if a discussion were necessary upon the subject, we can give our theory and support it by the result of the published autopsies .- Communicated to American Medical Times, by Dr. Saml. R. Percy.

Indian Hemp.—The Archives of Medicine No. vii. contains an article from the pen of Dr. J. Russell Reynolds of London, "On some of the Therapeutical Uses of Indian Hemp," in which the author claims for the drug a good share of confidence, when a proper case is selected, a pure drug employed, and a proper dose exhibited; and that the uncertainty of its action is due to the failure of one of these three conditions. He says, "Hemp is a soporific, anodyne, and anti-spasmodic—it relieves pain, and spasm, and conduces to sleep; in doing either of these, it usually promotes diaphoresis and diuresis; whereas it does not leave behind it headache or vertigo; nor

does it affect the appetite nor confine the bowels.

Its beneficial effects are illustrated, 1. In cases of mental or emotional disturbance.—A remarkably intelligent boy, æt. 8, complained for four or five months, of frequent headaches, troublesome dreams, uneasy sleep with sighing respiration, The sixth of a grain, taken every evening, soon restored perfect tranquillity. A merchant, who had suffered from vellow fever, became "excessively depressed in spirits, haunted with the gloomiest apprehensions and suicidal thoughts," nights restless. Extr. cannab. Ind. gr. ss., o. n., soon insured him good nights and days. A gentleman, æt. 78, mental powers failing, had been threatened with paralysis, and became extremely restless at night. A dose of gr. 1/3 to gr. 2/3 would induce sleep within ten minutes. This was continued for many months with the same success, it never being necessary to increase the dose. 2. For the relief of certain kinds of pain: - A young gentleman, who had suffered for several years from intense pain in the jaws, face, and head, was relieved by gr. \frac{1}{3} can. Ind., forma pil., o. n. Tr. ferri sesquichlor. 3 ss., t.d. An intelligent boy, æt. 7, was first noticed to clench his left hand involuntarily, afterwards suffering from violent headaches, located in the forehead, occurring once a week, followed by partial paralysis of the left side. Was relieved by can. Ind. gr. \(\frac{1}{4}\), bis die, with potass. iod. gr. iv., and dec. cinch. 3 j. A gentleman, æt. 59, suffered for twenty years from pain in right scapula, and corresponding portion of the spine; afterwards numbness and tingling down the arm similar to that produced by pressing on the nerve at the elbow. Extr. can. Ind. gr. \(\frac{1}{3}\), t.d., forma pilulæ sin. camph. e. opio, pro usu; syr. ferri iodidi, mxxx, t.d. "Within a fortnight the pain was completely removed; the tingling sensation, however, persisted." A clergyman, æt. 70, complained

of pain in left side of neck and back, extending to the head, followed by difficulty in articulation. Tongue deviated to the left, head drawn towards left shoulder, arcus senilis marked, spirits depressed. The pain was relieved by can. Ind. gr.  $\frac{1}{3}$ , ter die. A young lady of highly nervous temperament was relieved of severe attacks of hemorrhage by gr. 1 doses given thrice daily. 3. In certain forms of convulsions :- An officer in a cavalry regiment, æt. 28, had suffered from slight epileptic attacks, gradually increasing in severity, until they at length became frequent and tetaniform. Though not entirely cured, the severity of the fits was greatly relieved by gr. 1/3 doses every three hours. A gentleman, æt. 45, of good general heaith, but subject to frequent excitement, was suddenly seized with a violent convulsion, followed by heavy and stertorous sleep, and after by maniacal excitement for fifteen minutes, which passed into another fit, passing through a similar series of symptoms about once an hour. After failure of the ordinary methods of treatment, gr. i. of can. Ind. was given, and rejected by the stomach. Another dose was given and retained, which afforded complete relief. By the same treatment, a case of obstinate vomiting, in a young lady, was entirely cured, and an epileptic youth was greatly relieved. On the other hand, it was absolutely useless in most cases of epilepsy, hypochondria, and the various hysterical affections. To give a bird's eye view of the whole subject, the remedy was for the relief of emotional disturbances.

#### SUCCESSFUL IN

- 1. Deranged cerebral circulation, with pain and delirium.
- 2. Incipient insanity after yellow fever.
- 3. Senile remollissement.

#### UNSUCCESSFUL IN

- 1. Hypochondriasis.
- 2. Temporary, recurrent religious melancholy.
- 3. Insomnia with diabetes.

## Painful Affections.

- 1. Nervous irritation from cari- 1. Sciatica. ous teeth.
- 2. Probable tumor of brain.
- 3. Probable thickening of spinal meninges.
- 4. Hemorrhage at roots of 8th and 9th nerves.
- 5. Syphilitic meningitis.
- 6. Hemiceanir.

- 2. Hysterical hip-joint.
- 3. Hysterical headache.

# Affections of Motility.

1. Meningitis.

1. Epilepsy.

2. Intense cerebral congestion.

3. Obstinate nervous vomiting.

4. Recurrent convulsions.

It does not, like opium, purchase present relief at the expense of future misery. The value of the medicine seems enhanced, because the limitation of its action will enable us to apply it with scientific selection.—Am. Medical Times.

Water: Its History, Characteristics, Hygienic, and Therapeutic Uses.—By Samuel W. Francis, A. M., M. D.—No. 1.—Religious History.—When the pleasing duty is assigned us of discussing a subject which could well employ the thoughtful mind for many busy years, we enter upon a consideration of its beauty and depths with a calm pensiveness, and pursue its charms with a quiet enjoyment, unlimited by the narrow bounds of a set task. We feel that humanity is interested in the same object of our investigation, and appreciate, to the fullest extent, the contemplation of that which is common, in its usefulness, to all, and may, with impunity, be regarded by mankind as the only true democratic link in nature.

Water, as a theme, is as expansive as the ocean—as endless, in its teachings of philosophy, as the globe itself—and as truthful in its reflections as it is pure in its organization: as an inhabitant of the earth, one of the oldest—as a parent of secondary growths, the most antiquated. We find recorded in the pages of Holy Writ:—"Darkness was upon the face of the deep," and "God moved on the face of the waters." (Gen. i., 2.) It was not until the waters were formed that the firmament (heavens) was made. The waters existed before even dry land appeared. When that grand scheme of nature had been fulfilled—when all the plants of the earth, and lights, had been created, to balance the laws of the sphere—there was a stillness, such as never can be equaled again.

Then, on the fifth day, "God said, let the waters bring forth abundantly the moving creatures that hath life;" not only "whales and every living thing which the waters brought forth after his kind," but "the fowl that may fly above the

earth in the open firmament of heaven."

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In the second chapter of Genesis, we find that when all was completed and God rested from his labors, and was well pleased that it was very good, "there went up a mist from the earth

and watered the whole face of the ground."

The garden of Eden—the paradise of man before his fall was well watered by a stream that parted into four heads on emerging from its beautiful seclusion, where man was, for centuries, to dwell in purity and innocence. It is important to be thus minute in detailing the smallest facts connected with the earlier bistory of water in the beginning of the world -for it establishes an interesting and instructive chain of evidence from chaos to the end of the slow-paced movements of advancing time, that at once stamps upon the face of a truthful record the priority of water. And what can be of greater moment to man than this mundane sphere while he lives and breathes and moves? And when he learns of the part borne by water at the commencement of all, he experiences additional interest in tracing out its meanderings through the green pastures. Leaving a large margin ir the book of life, he passes on to meditate upon it as the key-note of all that breathes.

To touch briefly upon the uses made of water in the Bible for the benefit of man, we find many instances of historical importance, involving moral teachings, miraculous cures, and suggestive lessons. When the world had abandoned itself to sin, and mankind refused to listen to the admonitions of a merciful God, the elements bore down the messages of a wrathful indignation from the fountain-head of Truth, and thousands were thus swallowed up in water. The Deluge washed all from the record of humanity, save those who, exhibiting a pious faith, had gathered themselves together in the Ark of the Covenant, the sole representatives of this future world; and that the human mind might not lose its just ambition in ages yet to come, Iris appeared, spanning the heavens and telling, in all the softening colors of prismatic truth, the mercy of an injured Deity. Strange, indeed, does it appear to the contemplative mind, that, while the world was first destroyed by water, its second end will be produced by want of it!

The wells of Jacob are still in existence, and may be seen by the traveler, or met with by the weary pilgrim on his lonely path of duty and of sorrow.

While all the males in Egypt were being slain to restrict

the increase of the Israelites; while parents wept and mothers sat bereaved of their bright future prospects, the infant Moses was placed upon the bosom of the placid stream to be wafted at the disposition of the God of Israel, the future leader of a mighty host, the faithful ruler of an ungrateful people. Borne along the banks of Pharaoh's river, he was rescued by the heathen. Thus an eventful era in the history of the world turned upon the fated voyage of the little fragile bark, and the sleeping innocent, the embryo of future purposes, the instrument of Providence. When the seven plagues failed to soften Pharaoh's heart, and he repented him of his rash permit to depart, though many miracles had been performed to demonstrate the existence of a mightier power, it remained for the Red Sea to roll back at the word of the all-powerful JAH, to liberate forever the bondsmen from the tyrant's sway. Returning, at the second mandate, to its former bed, it swallowed up the worshiper of idols, with his great company of soldiers, and left another mark in the records of the nation's progress that foretold a change of customs, habits, and religion.

The children of the wilderness journeyed on, obedient to the movements of the cloudy pillar; and when at length surrounded by a desert waste, with no appreciable evidences of relief from thirst and hunger, they doubted the wisdom of an ever mindful guide, and with parched lips, and uplifted eyes, rebuked the Omnipotent for such painful trials, the flinty rock was smitten, and pure water gushed forth to alleviate their

sufferings and confirm their faith.

The miraculous adventures of the prophet Jonah form one of the most interesting facts connected with the earlier periods marked in the writings of the Old Testament. Elijah, when there had been few before him to exhibit signs of taith and reliance on the aid of Heaven, fearlessly crossed the river Jordan, with no power save that of confidence in God. And when Naaman had tried all the remedies of his own dominion, the simple answer to his inquiry for beneficial means to be employed, was but to bathe just seven times in the river Jordan. The keeping back the rain for many days, and then pouring down a plentiful supply on dried up lands, in answer to the Prophet's prayer, serve to indicate the mighty influence upon the dullest intellects or hardest hearts, produced by droughts, the consequences of controlling nature's plans.

When Hagar was abandoned, with her child, to the care of

nought save the proud elements, and fainting, they sat down to die for want of sustenance, an angel of the Lord appeared and pointed out the spring of cool, refreshing water. David exercised more praiseworthy self-control when refusing the helmet of water, purchased by the blood of a few, than when leading his victorious armies forth to meet a valiant enemy. How suggestive of quiet benefits and soothing influences are the pools of Siloam and Bethesda! How surpassingly beautiful is the story of the angel descending from above to purify the water and medicate the stream, where old and indigent, decrepid and enfeebled human brothers laved their wounds and found a panacea.

More of the miracles of our Savior were performed on the water than we can find recorded of any other subject of Divine regard. The tribute money, demanded from his followers, was instantly obtained by casting forth a hook and bringing up a fish whose belly contained the money looked for. The miraculous draught of fishes strengthened much the faith of the disciples, themselves fishermen. The walking on the water, amid the shades of evening, called forth a corresponding confidence in Peter, and excited wonder and amazement. It was a storm at sea, threatening every instant to engulf the hardy seamen, that brought forth the piteous bewail, "Save

### " Peace, be still!"

Lord or we perish," and received that mighty, powerful, yet

expressive response and edict to the winds and waves:

How often, when the eager multitude had flocked to listen to their beloved Master, did he preach to one and all from the side of some small craft, rendering the vessel as sacred, for his purposes, as the pulpit is in consecrated times. In the Book of Psalms how expressive of purity, holiness, and quiet serenity of existence, is the descriptive phrase: "There is a river, the streams whereof make glad the City of God." Again, we have the beautiful simile, full of force, yet indicative of the gentler emotions of a subdued spirit, the psalmist exclaims, with all the poetry and pathos of one sensible of his condition; "As the hart panteth after the water brooks, so panteth my soul after thee, O God." And a little further on he states, with emphatic zeal, yet abiding self-consciousness of his desolation: "Deep calleth unto deep at the noise of thy water-spouts: all thy waves and thy billows are gone over me."

Innumerable are the metaphorical allusions to water in the Holy Bible, as evincing hope, sorrow, joy, faith, and repentance. And, indeed, one of the greatest examples of humility recorded in the New Testament is when our Savior knelt down at the side of his disciples, to wash their feet; symbolical of purifying their souls, and humbling their views of a Christian's superiority over sublunary offices.

It is also remarkable, and worthy of note, that the only time our Savior wrote was on the sand by the sea shore. The first great miracle performed was at the marriage feast of Cana, where "the conscious water saw its God and blushed."

When David, inspired by a sense of duty and a holy love of what was right, went forth to arm himself against the mighty Goliath, leader of the Phillistines, he refused to wear the proffered gift of armor and the richly-ornamented apparel of his own great king; and, walking down, chose him five smooth stones out of the brook, which served him, aided by Divine assistance, to overcome the titanic warrior, and free

his country from a warlike foe.

When an invitation is given to the lost sinner, and he is urged to move on towards the Throne of Grace, we find the following: "Ho! every one that thirsteth, come ye to the living waters."—Thirst being taken as the greatest suffering to be endured by man while in a state of unregeneration. It is not let him that is an hungered, eat! But ye that are wearied; that have exhausted all the energies of matter; who have not vital force to overcome surrounding objects; who need refreshing comfort; who desire what can alone prove soothing and salutary to the wasted spirit; come to the Fountain of Life and drink.

And still again, as a weapon of punishment, or as a proof of Christian rectitude, do we read the following counsel given to the man of probity when injured by his brother: "If thine enemy thirst, give him drink; for in so doing thou shalt heap coals of fire on his head." Here is another pure and holy precept for the follower of true charity: "Whosoever shall give a cup of cold water to one of these, in my name, shall have his reward." And I would ask what passage in the Scriptures is employed to exhibit the suffering in a future world, with a more comprehensive meaning, or a more dreadful warning, than that which speaks of the punishment of Dives while in hell? What did he ask for? What did he desire? What was the sole remaining means of satisfying his

cravings for relief from agony untold? That Lazarus might but touch the tip of his tongue with a drop of cold water! The heat to be endured; the living fires of a guilty conscience, corroding with a quenchless remorse; the burning despair of a hopeless misery; all conspired to call forth the solitary desire now left to the doomed man—water!

When the Israelites were in captivity, and hope seemed to vanish for the want of encouraging prospects; their bright features dimmed by the shadows of a heathen bondage: "By the rivers of Babylon they sat down and wept," hanging their harps on aged willows as they drooped in prophetic silence

over the murmuring streams.

It is a most interesting fact, suggested to the meditative mind, that while man has been permitted to discover, promulgate and bring to light new truths, invent a thousand wonderful improvements, and unfold a world of scientific paradoxes, all of which is but the laying bare to view the latent treasures always to be found in nature, God built the first vessel that was to surmount the waters of the deep and rescue fallen man from total ruin. How expressive and how true and full of calm, ennobling sentiments are the words of the wisest man that ever lived: "Cast thy bread upon the waters; for thou

shalt find it after many days!" (Ecc. xi, 1.)

So great a reverence is felt for water by some heathen nations that it is esteemed a god, and worshiped by them as the ruler of their destinies. Its quiet meanderings through unfrequented regions; its ubiquity; whether it has for its residence the parks of regal splendor, its banks adorned with plants of choicest rarity, or flowing in a gentle, gurgling stream let through the peasant's meadow, refreshing his cattle, beautifying the scenery, reflecting the heavens, and then running on to point man to its sources of purity and irresistible powers. One and all of these attributes seem to have inspired in the bosom of the swarthy Brahmin a feeling of adoration, fear, love, and awe. By the inhabitants of India the river Ganges is regarded as worthy of veneration, and even propitiation. This same river Ganges, which is one of the four parted from the original stream flowing through the garden of Paradise, is worshiped as the nail of the great toe of the god Vishnu.\* The blind, infatuated natives seek to wash away their crimes by offering up annually, as an atone-

<sup>\*</sup> Rev. Dr. Scudder, missionary to India.

ment, hundreds of their innocent babes to this insatiable deity. A religion resembling more the fearful demon spoken of in Vattek\* than such as one could learn to follow as the means of reaching future joys, in no way corresponding to the laws of true inspiration coming from divine associations.

In years gone by, mermaids were looked upon by seamen with fear and trembling, alike for their fascinating powers and relentless exactions, dwelling in mysterious caverns and subaqueous abodes, the constant resorts of sirens, and other equally unknown agents in behalf of some all-powerful being.

The Indian warrior has often bowed before the throne of the Great Spirit at Niagara, listening to his thunderings as unto some unknown language. If not correct or orthodox, it shows at least how sublime a thought for the ignorant savage, who seeks the future happy hunting grounds as the reward of honest dealings in this world.—Med. and Surg. Reporter.

(To be continued.)

LAND Scurvy.—This form of disease will be found among troops who suffer from the want of fresh meat, good flour or bread, and vegetable food in its natural state. The blood becomes depraved and the system debilitated, with a tendency to hemorrhage and a low form of inflammation in various

parts of the body.

But little medical treatment is required in this disease. Great cleanliness, diet of sour krout, spinage, celery, garlic, onions, carrots, and potatoes. According to experiments made in the Milbank Penitentiary, by the use of this latter vegetable, the physician in charge succeeded in banishing the disease from it. One of the best applications to the gums is the nitrate of silver or sulphate of copper. A gentle laxative

should be given to keep the bowels open.

In the recent report of the sickness and mortality among the United States troops, it is stated, on the authority of Assistant-Surgeon E. W. Johns, that "even vegetable matter, restricted to one form, may not prevent scurvy, as was the case among the lime groves at Fort Dallas, Florida, where the parade was covered with lemon, lime, and orange trees. With reference to this case, however, as well as his recollection now serves him, the troops at Fort Dallas were without fresh beef, and the flour was bad.

<sup>\*</sup> Vattek, by William Beckford, of England.

Potash, he also observes, and citric acid, in his experience of several years in Texas, had not the slightest value. He believes that the greatest developing cause, in the case of the

soldier, is guard-duty at night.

It was found by Dr. John J. Gaensten, while on duty at Camp Cooper, on the Clear Fork of the Brazos, that "in the absence of such anti-scorbutics as the army is usually supplied with, a remedy, free of cost, was found close by in abundance. The young and tender shoots of phytolacca, and of the various species of rumex were recommended, and when prepared, were freely eaten; one patient, unable either to walk or to discern objects, on the free use of the articles mentioned, was returned for duty in four weeks."—Med. and Surg. Rep.

ON A METHOD OF OBTAINING HOMOGENEOUS LIGHT OF GREAT INTENSITY.—As it is a desideratum in optical science to procure perfectly homogeneous light of sufficient brightness for many important experiments, I am glad to be able to communicate a method which, in a satisfactory manner, supplies that deficiency. It is only requisite to place a lump of common salt upon the wick of a spirit-lamp, and to direct a stream of oxygen gas from a blow-pipe upon the salt. The light emitted is quite homogeneous and of dazzling brightness. If, instead of common salt, we use the various salts of strontium, barytes, etc., we obtain the well-known colored flames which are characteristic of those substances with far more brilliancy than by any other method with which I am acquainted.—Mr. H. F. Talbot in Chemical News.

THE MICROSCOPE discovers the fact that the mould on bread and other provisions in damp, warm weather, is a dense forest in miniature, with buds, leaves, flowers, and fruit.

S. DUNHAM, Cor. Sec. of W. D. S.

WESTERN DENTAL SOCIETY.—Owing to the troubled state of our country, it is decided best not to hold a meeting of the Society this year. By order of the President.

INDIANA STATE DENTAL ASSOCIATION.—The next semi-annual meeting, which was set for the second Tuesday of July, proximo, has been postponed, and will be held in the city of Lafayette, on the second Tuesday of January, 1862, at which time there will be a general announcement to the profession throughout the State.

In taking the responsibility of making the above change, the officers of the association, with the advice of several members who were consulted on the subject, have acted with a view to the interests of the association, and they trust the postponement will meet the approval of every member. Owing to the present distracted state of our country and the preoccupation of the public mind by the more exciting subject of war, and our nation's troubles, it was feared that the interest of the profession would not be sufficient, at the present time, to secure a full attendance. A large attendance upon the next meeting is particularly desirable, inasmuch as in January last, through a misunderstanding as to the time of meeting, comparatively few of the members were present, and in consequence much important business was deferred.

The Secretary improves this opportunity to request all those whom this circular reaches to furnish him, as soon as convenient, with the names and addresses of all respectable practitioners of dentistry in their vicinity, together with those of all practitioners who feel a good degree of interest in our specialty. Those who will be kind enough to forward such lists will please address the undersigned, at Terre Haute,

By order of P. G. C. Hunt, Pres't. Indiana.

S. B. SMITH,

Rec. and Cor. Sec. Ind. State Dent. Ass'n.

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Postponement.—In pursuance of the general expression of desire to that effect, from the officers and members of the American Dental Association, the President, Dr. Atkinson, authorizes an announcement of the postponement of the regu-

lar meeting for one year.

The association will, therefore, meet in the city of Cleveland, O., upon the last Thursday of July, 1862, at 10 o'clock A. M.

W. Muir Rogers, Cor. Sec'y.

# Editorial.

### DENTISTS IN THE ARMY.

About two years ago, there was a movement in some of the dental meetings of our country in reference to the appointment of dentists in the regular army. A committee was appointed to memorialize Congress upon the subject, and take such other steps as might seem practicable. Little or no effort, however, was made by that committee; why, we do not know; perhaps, upon a survey of the matter, the committee found the difficulties to be so great, as to render any effort in that direction impracticable. This movement was based upon the idea, that the welfare of the soldiers and all in army service required the services of the dentist. We believe this is a work which should have been prosecuted; competent dentists should be attached to every army.

Dentistry is a subject to which physicians and surgeons do not give very close attention; they too frequently overlook or disregard the diseases to which the teeth are subject, and their treatment; and this when attempted, is usually confined to the extraction of the supposed offensive organ. More than this could not well be expected of them. Dentistry is one of the specialties of medical practice, that demands for its faithful performance, the undivided

attention and effort of one person.

The effort of our associations in this matter was predicated upon the belief that the teeth of those in our armies should receive more attention than heretofore; this can hardly be controverted. The teeth of soldiers by neglect, very frequently become diseased, and that at an early period of camp life. We are fully convinced that the soldiers of the regular army should have the services of good, efficient dentists, especially so far as hygienic, prophylactic, and remedial treatment is concerned. This, perhaps, should not include the expensive operation of filling, and the insertion of artificial teeth, though we think it would be well for the appointment to contemplate these, except a fee from the patient, which should amply cover the cost of material, and perhaps a nominal fee beyond this.

If those who have been in the regular army should have the services of a dentist, the claims of those who have recently entered its service will, in some respects, possess a stronger one. A very large proportion of these persons are from positions in society where they have been accustomed to receive such attention as their well-being demanded, and not least among these is the service of the dentist; such persons will feel severely the loss of such attention. We think attention should be given at once to this subject by those having power and authority, and we shall, so far as opportunity may afford, bring the matter to their attention.

It is possible that such an appointment would be self-sustaining, or principally so; it would certainly accomplish more in this respect than the general surgeon.

Another point worthy of consideration is, that in times of emergency such persons would be of great value to the general surgeon.

We shall have more to say upon this subject in future. T.

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### THE INFLUENCE OF CAMP LIFE UPON THE TEETH.

THE present disturbed and distracted condition of our country has caused a great and sudden change in the manner of life with many thousands of our countrymen. This is true of all those who have gone from pleasant and comfortable homes into camp life.

The change thus incurred will, doubtless, make its mark, and this in various ways. Some circumstances will be physically advantageous, while others will be adverse. Perhaps in no particular will the latter be more manifested, than upon the teeth of the soldiery. To these, the attention necessary to keep them in good condition is not given; they are, as a general thing, wholly overlooked

in regard to cleanliness, and also to diseased conditions, until they have become intolerable by the pain which they occasion. This want of attention results from two or three considerations. The excitement and novelty of the new position is, perhaps, at first a very general cause of neglect; but the want of facilities, such as proper direction, tooth-brushes, dentifrices, tooth-picks, etc., constitutes the great difficulty lying in the way. These things should all be placed within the reach of every soldier; but strange as it may seem, we have not been able to find anything of the kind, in a single sutler's establishment, in a large encampment.

We are familiar with cases, in which persons, before entering camp, were scrupulously careful in regard to the teeth, giving all attention, that nothing injurious should be permitted to remain upon them, who, after entering camp, were so inattentive as to permit vitiated food and a thick gumy mucus, and sordes, to accumulate upon the teeth in large quantities, exhibiting a most disgusting appearance, and producing decay and disease of the teeth with the greatest rapidity. This occurring to a great extent, no doubt, from the causes we have mentioned; in addition to these, such persons, no doubt, feel that they can not avail themselves of the services of a dentist.

A large proportion of those who enter the army sustain great injury to the teeth in a short time. We remember numbers who went to the Mexican war, with sound and beautiful teeth, and returned within a year or two with them almost destroyed, and in some cases entirely so, and almost all much diseased. With the proper care, there is no excuse for this state of the teeth, even in an army, for they have the time, and should have the facilities afforded, to keep them in the best possible condition.

T.

### MICROSCOPE.

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The microscope purchased by the Mississippi Valley Association is complete in all its arrangements, and in working order. The specimens of sections of the teeth, exhibiting the dental structures, ordered by the last meeting of the Mississippi Valley Association, are now complete and ready for examination. These specimens are very fine, having been prepared with great care, with reference

to the most perfect exhibitions of the structures of the dental tissues. The members of the society can have access to the instrument for the examination and study of these specimens, by calling at our office, at any time it may suit their convenience. We have in course of preparation a series of abnormal and pathological specimens which will be highly interesting. We invite the attention of our brethren to these also, as they afford a good subject for study.

T.

### CORRECTION.

WE have received a communication from Dr. W. M. Rogers, of Shelbyville, Ky., in which he states that he is incorrectly reported in the discussions of the Kentucky State Dental Association, in regard to the subject of caries. We will give his own remarks in regard to the matter:

"Your reporter misunderstood my remarks in the Kentucky Dental Association. I hold no such opinion, as that there is such a thing in dental pathology as internal decay. I can readily understand how my remarks might be misapprehended; but as they would not, probably, be of any general interest, I will simply beg that you will do me the favor to state in the Register, that I disclaim the doctrines imputed to me by the report, and endorse the editorial remarks of T."

By this it will be seen that Dr. R. sets himself right upon the subject of internal decay; and right glad we are of it. We thought the Doctor far too well posted to entertain any such idea, and we felt, when we read that report, that we had been mistaken. T.

#### CREDIT.

PERHAPS the Southern Dental Examiner would have given the Dental Register credit for the lengthy extract from its pages of Dr. Talbert's paper, read before the Kentucky State Dental Association, if its Editors had not forgotten or overlooked the matter. The custom is to give the credit; perhaps a new mode is to be introduced.

#### MICROSCOPIC.

WE request of our professional brethren, that they would send us any teeth of peculiar structure, or those having any unusual peculiarity which would be unfolded or brought out more fully by the microscope, to send them to us, and we will have them nicely mounted, so as to exhibit most fully any peculiarity they may possess. We hope this will receive the attention of our brethren, and that they will take advantage of this opportunity to save any rare specimens that they may find.

T.

### CLOSURE OF THE PAROTID DUCT.

ABOUT six years ago, Mr. J. M. had an upper molar tooth, the fractured edges of which produced considerable irritation of the mucous membrane of the cheek. In a short time, inflammation was established, and the cheek began to swell. The tooth was extracted, but the swelling continued. There was, at the end of a year, very great enlargement, producing a very serious deformity; and the general impression was that there was malignant disease of the parotid gland. At this stage the case came under my observation; and, on examination, I found that the orifice of the parotid duct was closed. I made an incision, and endeavored, with probes, to re-open the duct, but failed. An isolated lower molar was found sensitive, on percussion, and slightly loosened, and I thought proper to extract it. When the tooth was extracted, a jet of purulent matter was thrown out of the patient's mouth, striking the window, in front of the operating chair, above the level of the patient's head. The quantity of matter discharged was about eight ounces. It had nothing of the appearance of healthy pus. In general, it was thin, watery and dark-colored, with large quantities of irregular masses, in appearance and texture like coagulated albu-There was but little discharge of blood. After the discharge the parotid gland could be distinctly felt, and was found to be somewhat enlarged and indurated. An ordinary silver probe could be passed its entire length, through the socket, in almost any direction.

The socket was kept open and the cavity of the abscess was regularly washed out with tepid water, and the case progressed favorably for some ten days, when violent inflammation set in, accompanied with great constitutional disturbance. Both local and general treatment were resorted to, and, as the inflammation subsided, an abscess opened through the mucous membrane, at the angle of its reflection from the cheek to the gum, and the opening through the socket was allowed to close.

For three years the patient has not been troubled with inflammatory or other unpleasant symptoms; and the saliva is discharged through the new opening referred to, which seems to answer all the purposes of an artificial duct.

We have not thought it necessary to give a detail of the treatment pursued in this case, as minuteness is often more tedious than profitable.

W.

### THE TEETH OF ARMY RECRUITS.

In the Manual for the Recruiting Service, we find the following given as sufficient causes for the rejection of applicants, viz:

Loss of the whole or part of either jaw-bone;

Deformities of either jaw bone, interfering with mastication, speech, or the tearing of the cartridge;

Anchylosis of the jaws;

Loss of the incisor and canine teeth of both jaws.

"To this catalogue we may add caries or bad condition of a great many or most of the teeth; it is necessary that the soldier should be able to chew his biscuit; if he has lost some of the molar teeth, the others should be sound, as well as the gums that support them. Otherwise the jaws are exposed to frequent irritations; to swellings under the influence of the slightest causes. In the inspection of substitutes, we should be very severe upon this point."\*

To pronounce absolutely upon the number or description of the teeth that may be lost without disqualifying the recruit, would be a very difficult matter. All authors speak of this kind of defect but always in rather indefinite terms. The British Regulations, mention "loss of many teeth, or teeth generally unsound;" Sir George Ballingall speaks of "extensive deficiency, particularly of the front teeth;" the French, as above quoted, enumerate the loss of the whole of the canine and incisor teeth of both jaws.

The soldier requires a sufficient number of teeth in good condition, to enable him to masticate his food properly. Hard bread, tough beef, and salt pork, require good molars for this purpose. The incisor and canine teeth are not adapted to this end, i. e, without the aid of some of the molars. The soldier must again have teeth of some description, strong enough to tear his cartridge. This

<sup>\*</sup> Aide Memoire.

is usually done with the incisor and canine teeth. But if the bicus pid and two of the molars in both jaws upon the right side remain and are sound, we think this may be done as conveniently as with the incisor and canine. The instructions for tearing the cartridge in the infantry tactics, merely prescribe that it is to be put between the teeth, without specifying the particular teeth by which it is to be torn.

If, then, the front teeth have been lost by accident, as sometimes happens, we should not reject the man on that account, provided the double teeth, or a sufficient number of them, remain sound in both jaws, and upon the right side. But if the front teeth have been lost from caries, and the double teeth are unsound to any extent, the man should be rejected. If the front teeth remain and the molars are gone, we think rejection is again demanded, because the man is evidently incapable of properly masticating the food he must subsist upon in the field.

a sign of temporary derangement of the digestive organs or the like, it is of no consequence. But if it depend upon extensive caries of the teeth, chronic ozena, scorbutic, syphilitic, scrofulous, or mercurial cachexia, it demands rejection as well from its own offensiveness as from its being one of the indications of grave disqualifying

disease.

If good teeth are so important for the soldier, would it not be well to adopt some means by which they can receive the attention necessary for their preservation?

T.

# TEXTURE OF DENTINE.

The enamel of the teeth, as all know, is usually the hardest substance in the human frame. Lately, however, we met with a case which emphatically contradicted the rule. A lady of eighteen had lost the upper incisors by early decay. The bicuspids and molars were defective, but were filled. The enamel was defective on one of the cuspids. At one point the depression was so great as to afford a lodgment for foreign substances, and we concluded to form a cavity and fill. The border of enamel was easily dressed off, but our instruments refused to take hold of the dentine. The best drills—those that never refused to cut enamel—glided over it as if composed of soft iron. We surrendered, dressed off the border of enamel, to give a more uniform surface, and told the patient that, on further examination, it appeared that the tooth did not need filling.

W.

## THE

# DENTAL REGISTER OF THE WEST.

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# Original Essays and Communications.

### INFLAMMATION.

BY W. H. ATKINSON.

INFLAMMATION is but perverted nutrition, and hence, must be present in every case of abnormal action of any organ. That this may be demonstrably clear, it will be necessary to examine the stages, not only of abnormal, but normal nutrition.

Then to define:—the term primarily signifies to nourish. Now, as no nourishment can be appropriated to the system in a solid state, solution is the first prerequisite to effect the transfer of the entities from one state to another.

To effect solution, a certain grade of affinity must be secured between the menstruum and the entities to be dissolved, to hold them in solution and in undisturbed repose for a time, until introduced to the system, where a higher affinity is found for the entities in solution, and thus they, under the attraction of this affinity, leave the menstruum, and take up their residence in the tissue in strongest relation to them, and thus the molecule is recuperated. This is nutrition, so far as the primal, perceptible action is concerned.

The secondary action is not quite so apparent to the severely logical perception; but is another play of affinity between solutions, i. e., the spent cells, having deteriorated the circula-

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tion, render it impure, or effete, in the exact ratio of the quantity of spent cells contaminating it. Now, as soon as the nutrient solution has found its way into this circulation, in sinus, sac, artery, vein, or capillary, the inceptive act to nutrition takes place, which inaugurates both the primary and secondary acts, that together, in their completeness, constitute nutrition.

The secondary act, alone considered, is the play of affinity between the effete matters in the circulation and the menstruum holding life entities in the nutrient pabulum, which renders it easy for these to escape into the plasma of the circulation, for the purpose of renovating the worn or weakened cells, or the formation of new ones, which completes the act of a true nutriticn or growth. The products of this quadruple affinity are invigorated tissues, or new tissues, on the one hand, and effete solutions, or debris, on the other.

Now, it will be well to reflect that the debris of one form of organic life is just the true pabulum for another; so that, in the grand round of the circulation, opportunity for the greatest economy is provided; and when all these affinities are in full play, all vitalized entities are taken up and used, and nothing but absolutely effete matters are thrown into the common draught, or waste pipes of the economy. Thus, at a minimum expense of food and functional activity, have we secured a perfect nutrition.

This opens a wide and extended field, in any department of which, the inceptive act of inflammation may exhibit its special character. But that this exhibit be plain to us, a very close scrutiny is requisite; for it is in these inceptive stages only, that inflammation is distinct, unitary, and uncomplicated. If preserved in these stages, it is always capable of antidotal, analytic annihilation—these being the common and proper exhibitions of the true "vis medicatrix nature," to simulate which should always be the endeavor of the enlightened medical adviser.

That we may see some of the gateways into this vast field of causation, I will endeavor to point out a few of them.

1st. A disagreement between the constituents of the nutrient solution themselves may be the cause of inceptive perverted nutrition.

2d. Incongruity of an inter se complacent, or harmonious solution, with the circulation, in whole or in part, or the molecule, cell or tissue to which destined, may set up an inharmonic action, at any one of these stages, or places of metamorphosis, which will modify, to almost endless variety, this action called inflammation, which I propose to denominate "perverted nutrition."

Compatibility or incompatibility of food prove the above positions. For instance, a food, perfectly compatible and health-sustaining in one state of the system, will be slightly inconvenient, irritative, or absolutely destructive (incompatible) in another state of the general chylopoietic and securing system; thus proving that the ability to appropriate is as necessary as the presentation of a proper pabulum for appropriation.

The disagreements of untried food, or change of food, is a familiar example of this want of harmony of the affininities of food and system. To many digestive organs, the ordinary salted meats are poisonous (incompatible) at first, for very obvious reasons. But, after long struggling, the majority will be enabled to overcome the disgust for the improper food, and, by a sort of compromise, reject a part, and accept a portion, and make it do; but this is not perfect health. For the sensitiveness of the organism to the noxious solution must be overcome, either by blunting or destruction. In either case, we have but a part of the functions of the system left to perform the complicated digestion. If but a single system of organs were in want of nutrition, the solution of nutriment need not be complicated. For example, if musc'e alone needed recuperation, next to nothing of the phosphates need enter the solution, albumen alone being capable of sustaining this

tissue, with a very little iron, added for the use of the higher

organizations of this tissue.

Now that we have seen that inflammations can only occur in tissues at the point of passing from the solid to the fluid, or from the fluid to the solid state, the astute, philosophic mind will readily perceive that all we have to do is to arrest the further change in either direction. And as all inflammations are but too rapidly oxydating the inflammable constituents of organic bodies, we may see the imperative propriety of "starving the fever"—ceasing to supply fuel to the fire. And the best way to do this is to reduce the temperature of the patient to the lowest point compatible with the continuance of life, giving him nothing but pure water, externally and internally.

## VULCANITE WORK.

WE have, from time to time, as occasion seemed to require, given our views on the use of vulcanized rubber for dental purposes, and the mode of working it. In regard to its value and efficiency, we have nothing new to offer. It seems to be in regard to permanency, all that we could have anticipated. The facility of working it is much greater now than formerly, the difficulties that were at first to contend with have almost all been removed, so that this style of work is now as easily accomplished as any other.

Almost all who have attempted it have found the same difficulties to contend with; many have cleared all these away, and now go smoothly on; others became discouraged, and abandoned it.

We are often written to in regard to the present mode of working vulcanite. There is no very obvious difference between the present method of working, and that of two years ago, except the process of vulcanizing. The other particulars of difference are made up of little things—peculiarities of

manipulation that are difficult to describe, indeed, must be seen, to be fully understood, and which practice only will enable any one to attain; such for instance, as packing in the proper amount of rubber, for any given case, and warming up to the proper temperature, and closing the flask, etc.

We propose here to give our present method of vulcanizing as it differs somewhat from any we have given heretofore.

We use the three piece copper, gas or alcohol vulcanizer put in water sufficient to cover the piece or pieces to be vulcanized, and close up immediately; be sure that the safety valve and the thermometer are all right. In regard to the safety valve, this may be determined by working it with the fingers; close inspection will sometimes detect an injury of the thermometer, but not always; any injury, however, may be positively determined by bringing up the heat till the steam escapes from the safety valve. If the mercury does not appear in the tube before this time, it is safe to conclude that the thermometer is broken, or at least not reliable; the heat should at once be removed, the steam permitted to escape, and the thermometer repaired, or replaced by a sound one.

The pieces being placed in the heater, and covered by water, the packing being perfect, the top screwed tightly down, apply the heat, and run the thermometer up to 360° to 380° as quickly as possible; if steam escapes from the safety valve before the desired point has been attained, place a weight upon it, sufficient to keep it perfectly closed. Continue the heat at about the point which is fixed upon, from forty-five to sixty minutes. If the thermometer is at 360°, perhaps sixty to sixty-five minutes will be required to properly vulcanize the American Hard Rubber Company's gum-If the heat is brought up to 380°, forty to fifty minutes will be quite long enough to accomplish the work. There is some variation in this gum. Other gums should, of course, be tested, before entering upon practical work with them.

We know of no better vulcanizer than the one referred to

above, and we have tried everything that has been in the market. There have been some complaints made about this machine, but we have yet to learn of anything that pleased everybody. Several have written to us recently, making complaints in regard to the vulcanizer. One says, "the thermometers break so easily;" certainly, a man's neck will break if not properly used. Another says, "it is almost impossible to keep them tightly packed." There is no difficulty whatever in this, if the packing is kept in good condition. In all respects, these vulcanizers are as efficient and as easily managed as any similar piece of machinery.

T.

# INFLUENCE OF ASSOCIATION.

BY DR. J. G. HAMILL.

Read before the Central Ohio Dental Association, at Newark, July 10th, 1861.

Gentlemen of the Central Ohio Dental Association:—Almost every section of our State has, for some time past, had its professional altar erected; and lit up, too, by the beams of associated effort.

The light thus sent out has been the means of illuminating many obscure recesses, and bringing thence the hidden treasures of many diffident and careless individualities.

It is a matter of regret to me, as well as to yourselves, that the profession of this central region of Ohio has blundered along for so many years without having erected an altar to the same divinity. We have received blessings without number, yet not in answer to our own invocations; but merely through the merciful dispensations of *Him*, who rains blessings both upon the just and unjust. Truly may it be said, that if we have been worshiping anything at all professionally, it has been the "unknown god." Individual efforts, for bringing about a better state of things in this section, have not been wanting; but what, pray tell me, can such efforts accomplish in the face of exceedingly selfish cotemporaries,

and a community much more learned in the practice of parsimony, than in a knowledge of the benefits arising from a correct and professional course of dental practice? Under such circumstances, individual effort can only accomplish about enough to thoroughly disgust a man that feels genuine professional promptings. We must, therefore, have a union of hands, of heads and of hearts, in order to insure the respect of learned men in all the other professions, as well as to dispel forever that crushing manifestation of parsimony, which community persists in forcing upon us.

We have, doubtless, frittered away many golden privileges by not uniting in associated effort long ago. But I hope for better things in the future; and your presence here I take as actual confirmation of my hopes. I do not expect to see much accomplished at this meeting, because the maddening rush of "grim-visaged war" is upon us, and the mind has grown sick at contemplation of anything except that which tends to crushing rebellion, and redressing the wrongs of an insulted nationality. But while our brothers, sons and friends challenge the cannon's mouth for God and Liberty, let us not altogether forget that our commissions have not yet expired; that we are still called upon to fight against everything that throws its ugly carcass into our ranks, for the purpose of lowering the standard of our profession. The ills of humanity demand that we not only support that standard in its present position, but raise it higher, and still higher, until perfection echoes back relief to every torturing ill that flesh is heir to.

We have come together, then, to do battle for the cause of truth and progress, and God grant that there may be no element of discord among us—that this society, founded as it has been on a basis broad and liberal, may have a superstructure joined together by the *ties* of our better natures.

You all know that one of the most prominent principles of animal life is self-preservation—(or in more common acceptation)—selfishness. We are furnished with the most incon-

testible evidence of this, whenever or wherever we look upon animated nature. The dog, however much he may love his master, does not hesitate to steal his meat, but is foolish enough even to plunge into the water, which by chance may be under him, after the very shadow of more. You may strike a hog with an ear of corn as hard as you are able—he will grunt, snatch up the corn in his mouth and run. You may throw feed to a lion, and if you do not glut him to sleepiness, he will turn and rend the life out of you. Such is animal life with nothing but instinct and physical force to direct and accomplish the aims of existence.

Man, uneducated, is an animal. He does not possess the characteristic of humanity. He has not the element within him, which alone is able to direct and hold in subjection the promptings of animal nature. Selfishness is the ruling passion of his nature, as it is of all other animals. In a word, he is a cannibal, and manifests his love for his fellow beings by eating them. But he leaves this mere brute life, and ascends in the scale of humanity, just in proportion as the mind is developed, and he is enabled thereby to judge between right and wrong. The rigor of the law and the usages of society are the means that direct and control him after he is able to judge thus, but has not the will power to enable him at once to practice the former and discard the latter. We are all possessed of this attribute of selfishness, and the use we make of it is regulated either by that degree of education which appeals solely to the law and the established usages of society, or by a higher law, which is prompted by reason and the affections. These laws are as different, the one from the other, as is right from wrong. To the transgressor of the former, a penalty in exact keeping with the heinousness of his crime, is meted out. To the transgressor of the latter there is no penalty attached, except the occasional twinge of a half-awakened conscience. To the observance of the former there is no reward; but for the observance of the latter there is the reward of an approving conscience, and the enjoyment of the society of the good and great. In fact, it is the passing over from this mere intellectual assent to the right of a thing, to the voluntary espousal of it by the affections, which makes a man good and great. This crucible into which the intellect and the affections are melted down together, we recognize in the avocations of life as honor. All the avenues of life claim to have some of this in their structure; but the professions build upon it most largely. In fact, it is the only rock upon which any man can with certainty build his hopes of reaching the honors and emoluments of any profession.

All of us desire to occupy a higher position in our profession than we are now occupying, and this is the manifestation of a laudable selfishness. How to attain such a position, "that's the question." On its solution hangs our own happiness and usefulness, as well as the usefulness and happiness That which, more than anything besides, of many others. restrains and keeps our actions within the bounds of professional courtesy, while we are endeavoring to advance our interests and well-being, is personal intercourse with our cotemporaries. By seeing their faults, we may be led to see that we have some ourselves, that need correction. The youth, without experience, and with extravagant aspirations, goes off in a dream of gaining riches suddenly, by which he expects to unlock the very gates of Paradise. This unfits him altogether for the performance of the common routine of practical life. He awakes from this dream some day, and hastily concludes that he must go up by virtue of the downfall of one or more of his cotemporaries. And so he gets up a war about patents or modes of practice, by which his interests suffer, and he is thought by community to be meddlesome. Later in life he comes to the conclusion that he has not ascended the hill of science so fast as his friend across the way, that he tried to pull down. He "tacks about" and shapes his course in accordance with the lessons experience has taught him. Still later in life, though he may be "full of wise saws and modern instances," he knows that the journey of life that leads to distinction is one involving years of straight-forward, honest, constant labor. The dream of youth has long since passed away, and the airy castles he built have vanished into thin air. The passion, too, which led him to the belief that the downfall of others was the key to his own exaltation, has given way, and become softened by the teachings of current events which have transpired with and about him. In a word, his selfishness has become educated-and educated selfishness does not, like a dog, flee from the substance to catch its shadow. It does not, like the hog, submit to ignominy, that it may snatch the wealth an educated man spurns from him when he feels his "honor grip." Neither will it, like the wild beast, receive all a generous hand will give it, and then take what remains, even to the death. No it is willing to let live, as well as live. In fact, selfishness, when controlled and directed by education and the affections, we can recognize as nothing less than the chief of Christian virtues-charity. Alas !- that it is one of the things in this world so "slowly learnt."

That condition of any community, society or profession which is characterized by a stable, equitable and liberal government, is always marked by a highly cultivated state of mind, a gentlemanly bearing and reciprocal regard for the feelings and interests of associates and cotemporaries. You can not, therefore, fail to appreciate the value of the two leading principles of action incorporated into the preamble to the constitution of this society. The benefits arising from the first of these (professional education) you must acknowledge. The personal experience, resulting from the labor of many years, or observation of the prosperity attending those, although very young, that have enjoyed advantages for acquiring professional education, which have been denied to you, or perhaps which you have denied to yourself, must teach you to recognize its power. The value of the second (that of personal intercourse) we now have a chance of testing. It will be valuable just in proportion as we are enabled

to make it the vehicle of communicating knowledge to each other while here, and of reciprocating kindly feelings and actions toward each other after we return to our several individual fields of labor.

There was a time when a dentist was excusable for not being a professional man; but that time has now subsided. There was a time when dentistry did not possess the requisites which go to make up a profession. That was when artificial teeth were not fit for use in the process of mastication, but were worn merely for "looks' sake." And oh! what a figure they cut, too, on that score. Afterwards they became practicable, and then the trade was established. And I imagine that if all the ghosts of the teeth that have been sacrificed to the importunities of the trade were now brought up and arrayed before us, we would not only feel mortified at the sight; but we would also feel that a long life of educated, conservative dental labor would be but small return for such heathenish practice.

But the trade, through the instrumentality of dental colleges, the press, and associations, has been transformed into the profession; and now he who avails himself of these channels for the acquisition of knowledge, does not often suffer the mortification of having to extract comparatively good teeth, for the want of a knowledge of their proper treatment.

Dental colleges claim our attention first, because they mold the student to fixed principles of action, which carry him through the avenues of true professional life. To young men, college advantages are beyond calculation, because they enable him to start in practice on equal footing with older practitioners, that have not availed themselves of a like preparation. Such young men as avail themselves of the advantages which our colleges afford, are not obliged to "cast their bread upon the waters, and await its return after many days;" but they realize its return at once. There is no unfolding of humanity, I think, so grand as that which comes forth in youth, bearing with it full evidence of the moral, social and

legal security for the individual, and the profession he represents.

Dental colleges give this security to every man that passes through them, in accordance with their established rules; and it is but seldom such security is not accepted and requited, on the part of community, by a return of liberal patronage. But I have an especial duty to perform in this connection, which I must not shrink from. That duty is to call your attention to the claims of the Ohio Dental College upon this society. I was deeply mortified that the complaint of a want of patronage had to go forth from the lips of one of the Faculty at the last Commencement of that college. I felt the justice of the accusation, and the alumni of the college everywhere ought to feel it. I intend to speak of it here, and act on it elsewhere to the best of my ability, and I hope you will all act also. There are about forty or fifty dentists in this section of the State, that ought to be members of this society. As far as I have been able to learn, but fifteen of these are graduates of any college, and only about half of these of the Ohio college. If I am correctly informed, these graduates, in most instances, do the leading business in their respective localities, and the reason they don't do so in all, is simply because they compete with men who have spent half a life. time in the practice. Why the young men that are constantly coming into the profession can't see and profit by these things is more than I can tell. Yet they continue to enter the profession by the back door, and drag along for years, a mere bundle of complaints about the want of patronage, and the cold, unsympathizing world, before they are able to make good the claims they have proffered. Better, far better would it be for such to make all sorts of sacrifices at the outstart, in order to enter the profession through the correct channels. Then a little close attention to office duties will bring about the honors and emoluments of appreciated professional worth. Whose fault it is that young men enter the profession so carelessly, is a matter of controversy. I hope those that are in

the habit of taking students for six or nine months can wash their hands clean of it. Some dentists complain of their students opening offices near by them, and taking their practice by the inducements they offer in the way of low prices. Will such complainants allow me to recommend thorough professional education as a remedy for such occurrences? That student that is able to do as good work as his preceptor, is not going to be fool enough to do it for any less compensation.

The "press" is the next great means for acquiring knowledge. And when we look back, and observe how rapidly the number of its issues has increased within a few years, we must conclude that the profession appreciate its power. But I believe our journals have not the support of more than onehalf of those that claim to be of the profession. This ought not to be so, and there is no valid reason why it should be so. I venture the assertion, and I do it too in all kindness, that two-thirds of those who do not take any dental publication, plead poverty as the reason for not doing it,-plead it, too, in the very face of the fact that they spend more money every year for lager, brandy smashes and tobacco, than would pay the subscription for the four leading dental journals of America. These are facts which any of you may find out for yourselves by a very little observation. And what, my friends, must we conclude from such facts? Of necessity we are forced to think that such individuals ride the profession as a hobby merely, for the gratification of their own selfish appetites, losing sight entirely of the high trust they have in keeping, which, as accountable beings, they are bound to extend and perfect for the alleviation of suffering humanity.

And now we have only to consider the last of the attributes of this triune sovereign to progress and distinction—association. And although it is the least of these, yet like its prototype on the road to the Christian's life, it is the means of awakening the sinner—it is the means of arousing the minds of men to the necessity of occupying a higher sphere in pro-

fessional life, and of enabling them to see, and lay hold of the facilities for the attainment of such an object.

About twenty years ago, the first rays of light brought to view by associated effort, came from the American Society of Dental Surgeons, through its organ, the American Journal. These rays illuminated the understanding ef leading men, and soon after the Baltimore College stood forth, the first of its kind on earth. Without pausing to note the rise and fall of other societies of less note, we come to the M. V. Dental Association (now the oldest in existence), which was organized about five years after that just mentioned. Its doctrines were heralded through the land by its adjunct power, the Dental Register, and very soon after, the Ohio Dental College was established.

We can hardly realize how quickly these events followed each other. It appears almost like the flash of chemical action. The elements were thrown together by association, a union took place, resulting in a compound, capable of healing up the fetid sores of charlatanism, by which the professional body had been afflicted so long and grievously.

My friends, I wish to see this awakening influence which association breathes infused into us, and also all the dentists resident within the contemplated jurisdiction of this society. We do not propose to establish journals and found colleges; but we wish to elevate ourselves and our profession, and we know of no way of accomplishing this so efficiently as by supporting the journals now established, and the colleges already founded. If we do this, the personal respect due to the interests and feelings of each other in our respective fields of labor will necessarily follow, placing us in a position for "dwelling in unity together."

# THE AMALGAM QUESTION.

ALL are familiar with the fact that amalgam plugs in the teeth are frequently blackened, but many seem never to inquire why. They are content to ascribe the blackness to oxydation. That the discoloration is superficial affords them real gratification.

Bearing in mind that mercury is a constituent of all amalgams, it may be profitable to inquire a little into the cause or causes of the discoloration referred to, and to notice some of the probable consequences of it.

Mercury is ordinarily a white metal, and we are aware of no process by which its color can be very materially changed. In this respect it differs greatly from gold, which can be made to assume any hue, from its own "golden yellow" to a jet black, notwithstanding the statement that "pure gold possesses the same color the world over." It is evident, then, that the discoloration of an amalgam plug is not due to a change in the mechanical arrangement of the particles of the mercury. We are, therefore, to conclude that the blackness results from the combination of some other element, or elements, with the mercury, or that the mercury has nothing to do with the discoloration.

It should be borne in mind that the most popular dental amalgam contains tin and silver, both, as well as mercury, characterized by strong affinities for some of the non-metallic elements liable to be brought in contact with them. The inquiry must, therefore, have reference to these, as well as to mercury.

Oxygen, sulphur, and chlorine are the elements most important to be considered in this connection, with reference to their affinities for these metals.

The question is, what chemical compound, or compounds cause the blackness? If a single compound, it is evidently insoluble; for however black, if soluble, it could only blacken the saliva, not the plug.

Is the black substance a chloride, then? Let us consider. It can not be chloride of tin; for both of its chlorides are soluble. Nor can it be chloride of silver; for, though insoluble, it is white, or grayish. And it is not chloride of mercury, for it is soluble; nor the sub-chloride, for it is white.

Is it an oxyd? Well, not an oxyd of tin, certainly, as the color determines; but both the oxyds of silver, and the sub-

oxyd of mercury, are black.

Is it a sulphuret? The sulphuret of silver, and the protosulphurets of tin and mercury are all black, or nearly so. We may conclude, then, to discard chlorine, as an agent in the

blackening process.

Both sulphur and oxygen are capable of acting with any or all three of the metals under consideration, when the circumstances are favorable. Warmth, moisture, completeness of contact, concentration, or rather, condensation of the elements, and their nascent condition, may be regarded as some of the circumstances likely to promote the action of these elements on the metals under consideration.

The first three of these conditions are always present in the mouth, the liquidity of the saliva bringing itself and the substances dissolved in it into the most intimate contact with any solids retained in the mouth. The fourth condition is afforded with respect to oxygen, as the saliva absorbs, and thereby concentrates this element. And as to the last named modifying circumstance mentioned, that is, the nascent state, the action of both oxygen and sulphur are modified by it in many cases. Hydro-sulphuric acid (sulphureted hydrogen) is very frequently, if not usually present in the mouth. It is often exhaled by the breath, and, being soluble in water, it, of course, is dissolved, to some extent, in the saliva. readily decomposed, especially when in contact with substances having an affinity for either one of its elements. As it is decomposed, its sulphur, with all the energy incident to the nascent state, unites with the metals under consideration. And this action is modified by the relative strength of its

affinity for the three metals, and by the ratio of their equivalents. If the three affinities were equal, the sulphur would unite with the metals in the proportions of tin, 58, mercury, 101, and silver, 108. But mercury and silver have a stronger affinity for sulphur than tin has; and, therefore, the force of the sulphur is mainly spent on the former two metals. We would conclude, then, that much of the blackness is due to the formation of sulphurets of silver and mercury.

But all this time the oxygen, concentrated in the saliva, is not idle. In regard to its affinities, it will be sufficiently accurate, for present purposes, to apply the remarks already made in regard to sulphur. Its energies, too, are mainly spent on the silver and mercury. The sub-oxyds of these metals are more likely to be formed, under the circumstances, than the protoxyds; and as these are black, dark colored amalgam plugs are not mysterious.

It may be well to remark, in this connection, that careful analysis fully confirms the conclusions here arrived at by a process of reasoning, and it might have been sufficient, for some, to have stated this at the outset; but we preferred the present course, as better calculated to impress the minds of our younger brethren, whom we regard as the hope of our profession.

Much has been said about galvanic action, in the various discussions of the amalgam question; and it is plain that the subject is but little understood by many who talk about it. The dull boy in the grammar school, when puzzled about the classification of a word, contents himself with calling it an adverb; and, in like manner, too many of us, when at a loss in regard to the nature of certain chemical actions, refer them to galvanic influence, and rest content. We have heard of galvanic currents vibrating back and forth, along a gold clasp, till, by their rapid and continued seesawing, they had worn, or cut away the tooth. We have listened to much that was but little farther removed from nonsense. Still the question of galvanic action has its place, and is entitled to consideration.

another name for galvanic, or electric influence. Certain it is, however, that when two metals, in contact with each other, are placed in a liquid which acts on but one of them, or unequally on both, a galvanic current is established. The force of this current is modified by the degree of energy of the chemical action, by the extent of surface acted on, or excited, and by the distance of the excited surfaces from each other. There are other modifying circumstances not important to be noticed here.

Bearing these points in mind, let us apply them to amalgam

plugs in the mouth.

We have seen that the constituents of the saliva act with unequal energy on the metals considered; and, as they are in the saliva, and in contact, it follows that galvanic action must ensue. And if there is such action at all, in this case, it must result in the formation of an almost infinite series of minute circles, similar to those formed by immersing commercial zinc in a dilute acid. And as the decomposing power of galvanic circles varies inversely as the square root of the distance between the excited surfaces, actual or apparent contact gives a battery of great power. And it should be borne in mind that the exciting solution of a galvanic battery is itself decomposed, or rather, some binary compound in it must undergo decomposition. The saliva, then, acting on one of these metals, or unequally on more than one of them, galvanic action is established, and this being so, it follows that some binary compound of the saliva is decomposed. And if the currents have sufficient force, all its binary compounds will be thus decomposed. Water, hydrosulphuric acid, and the soluble chlorides would thus readily undergo decomposition. It follows from this, that the formation of the oxyds and sulphurets, referred to above, is promoted by the galvanic action thus established.

But even to this there is a limit. The oxyds and sulphurets thus formed, being nearly insoluble in ordinary saliva,

and being deposited on the surfaces of the metals, protect the latter from the action of the former, and thus by arresting, to a good degree, the chemical, arrest, with it, the galvanic action. This will be better understood by a brief consideration of the ordinary zinc and copper battery. A sheet of zinc and one of copper, connected by a wire, if plunged into water, immediately establish a galvanic current. But this current is soon arrested; for the oxyd of zinc, formed on the surface of the zinc plate, is insoluble in the water, and, therefore, the metal is protected from farther action. But if a little sulphuric acid be added to the water, it dissolves the oxyd, as fast as formed, and the zinc continues to decompose the water, and the galvanic current is kept up.

It is only on account of this insolubility of the black oxyd and sulphuret of mercury, thus formed, that we see so few cases of the constitutional effects of the metal, resulting from amalgam fillings; for if they were as soluble as the chloride, a single plug of ordinary size could scarcely fail to produce these effects. If this position be correct, it follows that if it is proper at all to use amalgam fillings, it is no cause for discouragement to see them turn black. On the other hand, it is rather fortunate that they do blacken. And this corresponds exactly with our own observation on the subject, which has been very extensive, and embraces a period of more than a dozen years. We do not now recollect a single case of constitutional [disturbance resulting from the presence of amalgam fillings, in which the blackening of the plugs was very decided; and in the last three cases that we observed, there was none at all.

Genuine chemical combination takes place in the formation of amalgams. This is evidenced by various phenomena that may be observed. When an attempt is made to combine two metals, differing considerably in their affinities for non-metallic elements, one of them, as soon as contact is made, necessarily becomes positive, and the other negative. For example, in making an amalgam of gold, the mercury is rendered

positive, and its affinity for oxygen, a highly electro-negative element, is thereby greatly increased. The consequence is that the black oxyd of mercury is abundantly formed. same thing takes place, though to a less extent, in making amalgams of tin and silver. We have met with many who regard the presence of this black oxyd as an evidence that the mercury is not pure. It is formed, however, when the metals are all pure. If this oxyd is put into a tooth cavity, along with the amalgam, of course the plug will not make as good an appearance as when it is removed by washing with alcohol, water, or a solution of common salt. And when the oxyd is thus washed away, there is less danger of constitutional disturbance than when it is allowed to remain; for, in most mouths, after the amalgam is inserted, the sulphuret of mercury will be formed in greater abundance than the oxyd, and it is well known that the latter is a more active poison than the former. And besides its greater activity, in contact with hydrochloric acid, which is presented in many mouths, it is readily decomposed, the reaction yielding water and the subchloride of mercury, or calomel. It is well known that calomel is a still more active preparation of mercury than the sub-oxvd.

But, as the fluids of the mouth can not act unequally on the metals under consideration without exciting galvanic action, it will be understood by all who remember the presence of soluble chlorides in the saliva, that the formation of the subchloride, or even the chloride of mercury, is not improbable. The chlorides of sodium, and potassium, being binary compounds, and soluble, are readily decomposed by galvanic action. The chlorine, thus liberated, will unite with the mercury, just as the liberated oxygen unites with the zinc of the ordinary battery. As these chlorides are present in normal saliva, there is nothing remarkable in the formation of chloride of mercury from amalgam plugs; and it is probable that in all cases of constitutional effects arising from their presence, either the subchloride or the chloride is the agent that

produces them. Were it not that the breaths of most patients? as well as their saliva, are loaded with hydrosulphuric acid, so that the insoluble black sulphuret is formed, the formation of at least one of the chlorides of mercury could scarcely be prevented.

We may continue this subject.

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## CONCERNING TOOTH EXTRACTING.

BY J. A. M'CLELLAND.

(Read before the Kentucky State Dental Association, at Louisville, April 9th, 1861.)

Notwithstanding the advanced state of dental science, this, the *primitive* branch of our profession, continues to be one of the most common operations the dentist is called upon to perform.

The cause of this great sacrifice of organs so important to health, comfort, correct enunciation, and appearance, is not so much due to inadequacy of our art to save them, as to a general lack of knowledge in reference to the teeth, the importance of their preservation, and the treatment they should receive.

The early decay and premature loss of the teeth conduce not a little to the physical degeneracy of our race, and yet the unnecessary sacrifice of these organs, witnessed daily, is truly painful to the philanthropic dentist.

As a remedy, the dissemination of dental knowledge among the people would be most effectual. They do not understand the first law of nature (self-preservation), in its application to the teeth. They need waking up to the important truth, that cleanliness and good dental operations are the salvation of these organs. The question naturally arises, by whom and how shall this missionary work be performed?

The operative dentist sees daily how little is known about the teeth, even by parents, when he awakens their surprise by telling them that the tooth they wish extracted for their

child is not a deciduous tooth, as they supposed, but one of the second set, and probably that one or two other new teeth require filling. Cases like these afford the dentist an opportunity to impart a useful lesson, which humanity and the good of his profession demands that he should do. A dentist only does his duty when he indicates to his patient that certain teeth need filling or other treatment. His motives may sometimes be impeached, but he will be remembered more kindly when the truth of his advice is felt, though it should come painfully too late. That class of patients who have so much of the doubting Thomas in their nature, that when told their teeth need filling, will not believe until they miss the bread and butter that hides away in the mammoth cavities, do not merit the sympathy of the profession, unless it be for their great scepticism, which may bring them to need their grinders in the future.

It is unnecessary to attempt to enumerate the causes that lead to the extraction of so many teeth. It is not, however, always owing to neglect on the part of the patient. Inferior dental operations have a large share of sin to answer. As where teeth have been imperfectly filled, or have been embraced by clasps for the support of artificial teeth, when an atmospheric pressure plate could have been worn quite as well.

The practice of extracting teeth, in view of supplying artificial substitutes, in cases where the natural teeth could have been filled, and for years rendered more serviceable than the artificial ones, is by far too common. If we pride ourselves on supplying inimitable *imitations* of nature's pearly arches, we should pride ourselves still *more* in being able to preserve the *natural* pearls of price.

Teeth must sometimes be extracted, and to perform this operation well is no less an accomplishment in the dental art, than is good execution of instrumental music an accomplishment in the art of music—both requiring, in addition to correct theoretical knowledge, much practice in the use of the

instrument. It is not enough to know how to shave and champoo, or simply apply and turn a key with clenched fist and eyes shut, regardless of consequences. Such operations are generally barbarous, not to say hazardous in the extreme.

If there is one operation more than another that the dentist should go about understandingly, it is that of extracting teeth. Although the operation is generally accomplished without difficulty, cases occasionally present themselves, which tax the skill and ingenuity of the experienced and scientific operator. If we have a tooth to fill—even the most difficult cavity, or a full artificial denture to insert, we can predict with almost unerring certainty what degree of success will attend our efforts; but in the extraction of a tooth, oftener perhaps than in any other operation, are we liable to be disappointed in our expectations. We can not always calculate the strength of the tooth or the resistance to be overcome, and the latter often proves greater than the former.

So varied are the cases as to age, temperament and constitution of the patient, quality and condition of the teeth and osseous system, that to diagnose and prognose correctly, a wide range of anatomical, physiological, pathological, and experimental knowledge are brought into requisition. Without such knowledge, the operator must grope his way in the dark, committing many blunders, and by his frequent failures to accomplish what he perhaps so flatteringly promised, receives what he merits, the disapprobation of his patient and the unenviable reputation of a bungler.

A correct diagnosis is the key to success—not less in our profession, than in the practice of general medicine. A physician may err in diagnosis, and fail of success in a case; his blunders are buried with his patient, and his reputation sustains no loss. Not so with the dentist; he must demonstrate everything; perfection is demanded in every operation. His successes are received as a matter of course, while if he fail in one case, his skill is questioned. We should, therefore, examine well the case before expressing an opinion. If it be

in reference to the extraction of a tooth, and we entertain any doubt of success attending our first effort, it is better to tell the patient the state of the case, that they may be prepared to do their part, and afford the operator every facility they can for success. By this course, in difficult cases, the confidence of the patient will be retained, and even strengthened to perseverance, in prolonged operations. It is the practice of some, however, to pursue an opposite course under all circumstances, flattering their patients with success and no pain, when it too frequently results all pain and no success.

There is a vast difference in patients as to their fortitude to bear pain. While a few have the will to submit and the nerve to bear the operation of extraction with apparent indifference; to the mind of the nervous and timid, nothing is more terrifying than the idea of having a tooth forcibly removed from the socket where it grew. Patients of the latter class require sympathy, and it is the duty of the dentist to give them all the encouragement and assurance he can consistently. When we tell them, as we are apt to do, that "it will not hurt more than they can well bear, and just summons a little courage, and the operation will soon be over," if they do not readily submit, we should not lose our temper, dash down the instrument, and ask them gruffly what they came here for? Timid patients may be thus frightened into submission, but their fear and abhorrence of dental operations are confirmed for life. Firmness with patients is sometimes necessary: but we should ever be guided by our judgment what course to pursue.

When a patient consumes an unnecessary amount of time, and taxes our patience, we may charge them accordingly, and they will see the justice of the charge. It is only right to charge a fee for time unnecessarily consumed, even if the patient does not have the tooth extracted. The physician charges for advice, whether the patient takes the prescription or not, and the services of the dentist who is thoroughly qualified in his profession are not less valuable than those of the

physician. The charges, however, as well as the treatment, must be varied to suit the case. The dignity of our profession is not lowered by *charitable* operations.

That class of patients who are most likely to consume the time of the dentist unnecessarily generally lack fortitude, or in other words, have not the force of will to bring their courage up to the extracting point. A little brandy, administered in such cases, will generally have a beneficial effect.

In debilitated constitutions, and in those which, from idiosyncracy, are liable to syncope from slight causes, brandy should be administered before extracting teeth, and in no case where this stimulus is properly administered, need there be any apprehension of syncope.

A lady patient said that she always fainted when she had a tooth extracted (and she had lost six or seven), and was accordingly making preparations for the event, remarking that she would soon revive, and not to be alarmed. Brandy was given, and there was no indication of syncope. Patients of this peculiar idiosyncracy of constitution will bear double the potion of brandy when a tooth is to be extracted, that they would under ordinary circumstances.

In temperaments where the nervous highly predominates, with excitability, and particularly if the patient be a female, alcoholic stimulus should be withheld, as it would tend greatly to increase excitability, and leave the patient with an intense headache. To patients of this temperament a cup of strong tea or coffee would be a good substitute for the brandy.

It is a matter of some importance to know when and under what circumstances teeth should be extracted. Experience has sufficiently proven that teeth may be preserved and rendered useful for many years after they have decayed to the nerve. Hence, it is not always necessary nor advisable to extract teeth simply because they ache, and it may not be proper to extract teeth at all times, when aching, although they may be regarded worthless.

The operation of extraction is most painful when the tooth

is affected with periostitis, the pain varying in degree in proportion as the inflammation is advanced, and yet this is the very time when patients are most apt to apply to have dead teeth and fangs removed. Notwithstanding the soreness, as a rule, it is better to extract at once than to relieve the case, even if it could be done, as patients are apt to delay their removal when the inflammation and soreness subside.

Under some circumstances, however, it is better to relieve the case, if possible, without extracting, until the patient is better able to bear the operation. This may often be done in the early stage by opening up the nerve canal—giving vent to the mephitic gas in the fang, and fluid that may have accumulated at the apex of the fang. Should this fail, leeching and a cooling laxative will generally have the desired effect.

In cases where periostitis exists, the pain often continues unabated for some time after the tooth is extracted, and in some instances for many hours, leading the patient to suppose that the operation was not skillfully performed. In view of this, and as the dentist never receives in such cases the credit of "not hurting a bit," it is well to prepare the patient's mind for what may follow. In these and similar cases, prompt relief may generally be given by application to the gum of a little cotton, slightly moistened with chloroform containing gum camphor, and covered with tin foil to retain the vapor.

There are other conditions under which it may not always be proper to extract teeth, as in cases of pregnant females— (though it is not expected that the dentist can always know when his patient is in this condition.) Physicians generally object to the practice, regarding it as unsafe. Toothaches at those times they usually attribute to the condition of the system, regarding them as merely sympathetic. Experienced dental practitioners, however, know the liability of physicians to err in their diagnosis of odontalgia. If the case were clearly idiopathic, it would, in all probability, be pronounced by them sympathetic.

Females are, doubtless, more subject to toothache during

the period of gestation. Owing to the activity of life principle, the nervous system is highly susceptible to impressions, and slight causes produce irritation. Long continued suffering from toothache and loss of sleep at such a time would be far more injurious than the slight and temporary shock of having the tooth extracted; hence, we seldom hesitate to extract teeth, knowing the patient to be enciente, unless she is of an extremely nervous and excitable temperament, and very much fears the operation. In this case, it would be advisable to adopt palliative treatment.

Mrs. T-, whose teeth and gums were in a dreadfully diseased condition, caused her much suffering and ill health. She had borne four or five children, and was pregnant when she applied to have her teeth extracted. This, however, was her own secret at the time. She subsequently made known the fact, and stated that during the whole of each previous term of pregnancy, she suffered constantly with her teeth. This time she resolved to have them taken out. They were extracted at two sittings. She was four months advanced when four teeth were taken out. In three weeks after, six others, mostly molars, were extracted. No unpleasant effects followed, except temporary sickness from the effects of the brandy she had taken. She experienced no further trouble with her gums or remaining teeth, and her health rapidly improved. Her complexion, which before was pale and sallow, with puffiness about the face, became fresh and rosy. Her child was a fine boy, and free from any marks.

### DR. J. ALLEN'S REVIEW OF WHO ARE DENTISTS.

In all branches of science or art facts should be chronicled and error discarded. With this view, we deem it proper to notice some of the errors in a series of articles recently published in the *Dental Register of the West*, and republished in other dental journals, under the head of "Who are Dentists?" by Dr. Wm. A. Pease. He tells us that

"Dentistry, as a profession, is of American origin. It had its rise in a great public want which nowhere but in the United States existed, and there is little likelihood that it ever will exist in any other country."

The idea here conveyed is, that teeth do not decay except in America. This is an egregious error. But he adds:

"The want that gave it birth gave it also a vigorous growth, unexampled in any other profession—for dentistry can not truly be said to date back much earlier than 1840. The Baltimore College had just been established, and it was thought that, by scientific investigation, means would soon be found to preserve the natural teeth, and thus greatly diminish, if not entirely dispense with the necessity of artificial substitutes."

Now if the Doctor will look at the history of dentistry, he will be able to trace it back more than 400 B. C. Hippocrates and Herodotus were among the Greek writers upon this subject; and from among the Romans we have also the writings of Pliny, Martial, Horace, Celsus, and others, which reflect much light upon this subject. And although as a science it was then in a rude state, yet Herodotus informs us that dentistry was practiced in Egypt as a distinct branch of surgery at that time; and corroborating evidences now exist in the fact that good gold fillings have been recently found in the teeth of mummies, which must have been inserted more than two thousand years ago.

Hippocrates informs us that the loss of the natural teeth was supplied with those of artificial production, made of bone or ivory, and also human teeth, secured in the mouth by means of ligatures made of flax, silk, gold, or silver wire, attached to other remaining teeth in the mouth. About one hundred and fifty years after Christ, Galen wrote a much better work on this subject than any of his predecessors, yet very little advancement had been made during the previous five hundred years. During the next fourteen hundred years, various authors wrote upon this subject, among whom were Ætius,

Phaxes, Albucasis, Eustachius, and others. In 1579, Pakie' a celebrated French surgeon, wrote a very correct treatise upon the teeth. He enjoyed a great reputation, and was appointed surgeon in ordinary to Henry II., which office he held under three succeeding kings. French and English dentists had acquired celebrity in their native countries long before the Americans could claim supremacy in this branch of surgery, and we are much indebted to them for the light they have reflected upon our pathway in this department of science. From the writings of Eustachius, Parie, Hunter, Blake, Fox, Bell, Keocker, Leforgue, Duval, Leroy, and others, we have culled the basis of our profession; and Americans have done much, it is true, to elevate dental science, and a just tribute is now accorded to them by the Europeans, as well as those of our own country, for it. But to say that dentistry originated here in the United States, is a false assumption that should not be handed down to posterity in our dental records of the present era. No; the practice of dentistry was first introduced in the United States by Lemair, of the French forces, which joined our army during the revolutionary war in 1778, after which he resumed his practice in this country. Mr. John Greenwood was the first American dentist, and he established himself in the city of New York more than fifty years ago.

But Dr. Pease tells us, that soon after the establishment of the Baltimore College: "There followed an active course of experiments and investigations, to determine how far plugs would protect the teeth from further decay. Many of these experiments were necessarily imperfect and ill-directed; and it soon became obvious that people had more confidence in mechanical than conservative dentistry, and neglected their teeth. This neglect was ruinous. At last, in 1854, (it is well to be particular about dates), a rational theory was promulgated for preventing ulceration and curing ulcerated teeth, and about the same time, as if to fix and make that the initial point for the advent of dentistry as a profession, several im-

provements were made in preparing gold for dental purposes, that enabled dentists to make much more dense and durable fillings, and also to build up and restore the form of broken teeth. The dental profession was then fairly established." "In theory, at least, there was no longer any or but little need of mechanics or manufacturers of artificial sets of teeth."

Well might the dental profession then exclaim, "Eureka, Eureka!" The darkness which had so long obscured dentistry at last broke away, and the sun of dental science dawned upon this our happy land, as it nowhere else could shine. This great effulgence of light has revealed the principle by which a tooth can be plugged, and an ulcer cured. Dentistry is now fairly established, says the Doctor, and this is the sum total of what constitutes a dentist, according to his definition. He seems to have waked up, and fully appreciates the importance of these great principles, compared with which, the mechanic (as he calls him who inserts artificial dentures) sinks into insignificance, and his vocation is gone forever; for the Doctor says: "Now, after more than six years' practice of the new method of treating diseased teeth, dentists feel warranted in saying to their patients, there is no necessity for losing your teeth." Again he says: "Teeth can be so thoroughly plugged, that it will be as difficult to remove the plug as it would be to cut away a corresponding portion of the Even in those complicated cases where the tooth aches, where there is a swelling of the face, a gum-boil, or a discharge of pus, the pain can still be quieted and the ulcer healed."

No constitutional diathesis or difference in cases, is referred to as presenting any exceptions in this new mode of practice, but the reader is left to infer that it is infallible in all cases, and yet he tells us on page 282 Dental Register:—
"Never warrant your operations for a day; make your plugs stick, but do not warrant them to do so."

If this important announcement had been made to the world one hundred years ago, and teeth could then have been

preserved as effectually as the Doctor says they now can be, the following law against obtaining husbands under false pretenses, passed by the English Parliament in 1770, would have been unnecessary, so far as the teeth are concerned. This law reads thus:

"That all women, of whatever age, rank, profession, or degree,—whether virgins, maids, or widows, who shall after this act, impose upon, seduce, and betray into matrimony, any of his Majesty's male subjects, by virtue of scents, paints, cosmetic washes, artificial teeth, false hair, Spanish wool, iron stays or bolstered hips, shall incur the penalty of the law now in force against witchcraft, and like misdemeanors, and the marriage under such circumstances, upon conviction of the offending party, shall be null and void." But this is digressing.

Dr. Pease says there are two classes of dentists, or rather, there are dentists and mechanics, from whom very different treatment may be expected. The one, basing their practice on a knowledge of the human system and the laws that govern it, will preserve the natural teeth; they will refuse to extract them merely because they ache, or there is a gum-boil at the roots. And he further adds, "The patients of the first preserve their teeth." Then why do they ache and have gum-boils? The skillful physician and surgeon also base their practice upon their knowledge of the human system; but they do not always preserve life and limb. No; it is their knowledge of the human system and of the laws that govern it that forbids their making such unqualified assertions. It is the empirics who say they can always cure the sick, lame, and blind, under all circumstances. The patrons of the other class, he says, "get a shining set of white teeth, which every one knows to be artificial, in return for which they are but imperfectly cherished, the breath becomes offensive, the mouth falls in, the nose sticks further out, the lips shorter,the lips and cheeks become wrinkled and shriveled, the cheek bones assume an unnatural prominence, and they look prematurely old. The one feeling little more responsibility resting upon them than what is common to mechanics, act accordingly—they persistently seek for a sale of their wares, talk loudly, and promise much; they obtrusively thrust forward their mechanical contrivances, and press pieces of artificial teeth on the attention of the public, all of which the other as studiously avoid. The one never rises above the customs of a craft or trade; the other is governed by the rules of a profession."

Although there may be some to whom the above remarks may be applied with truth, yet, to speak thus disparagingly of all who insert artificial dentures (and he makes no exceptions) evinces one of two things: either that the position he occupies in the profession is unfavorable to command a full view of it; or his zeal to eulogise one branch of dentistry at the expense of another, has warped his better judgment. the Doctor will change his stand-point (say) to one a little more elevated, he will be able to see some dentists at least, in the distance, if not in his vicinity, who not only plug teeth and cure ulcers, but also insert artificial teeth, which, in point of appearance, are true to nature, and perform all the functions for which they were designed, as well as contributing largely to the comfort and gratification of their patients. The graphic description of artificial teeth, given by Dr. Pease, is evidently from his own practical knowledge of what they are, how they are made, and the final result.

When we review his three main points, first, that dentistry as a profession originated in this country, and that "it had its rise in a great public want, which nowhere but in the United States existed, and there is little likelihood that it ever will exist in any other country;" second, that the province or legitimate sphere of dentists is limited to plugging teeth and curing ulcers at the roots, and this established dentistry in 1854; and third, that those who insert artificial teeth are mere mechanics, nothing more, we are at a loss to define the stand-point from which he views the subject, and the more so because we have known the Doctor for several years, and be-

lieve him to be truthful, and writes what he conceives to be correct, and although we differ with him widely on the above points, still he has our respect and esteem.

(To be continued.)

# Selections.

DENTITION AND ITS DERANGEMENTS .- By A. Jacobi, M. D. -Lecture IV .- In order to complete the anatomical and physiological part of our subject, let me proceed to some remarks on the permanent teeth. You remember, from my previous lecture, what I said, following the description of the process as given by Harrison, on the first formation and development of the temporary ones. Soon after the commencement of the saccular stage of the deciduous teeth, the rudiments of the second or permanent set are developed. About the fourteenth week of feetal life, the deep portion of the primitive dental groove is closed in, and contains the sac and papillæ of the ten milk teeth; the upper or superficial portion of the groove remains open, and is then named secondary dental groove. In this commence the rudiments of the permanent teeth. At first a small depression is observable behind the superior openings of the milk sacs; this increases, and forms the cavity of reserve. These cavities are lined by an inflection of the mucous membrane, and at the bottom of each a small papilla is formed; they gradually recede from the surface, and are thereby converted into follicles, and finally into closed sacs, which lie to the inner side of, and in close contact with, the former set, and inclosed in the same submucous tissue. The necks of these sacs, by which they originally communicated with the general mucous membrane, continue as obliterated cords leading to the surface of the gum, internal to the deciduous teeth. These cords have been named the gubernacula, or itinera dentium, roads of the teeth, without having, however, any such office as the name would appear to imply. The primitive dental groove, behind the posterior deciduous molar, does not close so soon as the anterior porvol. xv.-30.

tion, and in it are developed, about the fifth month of fœtal life, the follicle and papilla of the anterior permanent molar. After its follicle has closed, the dental groove closes over it. leaving a space between the gum and the sac of this tooth: in this is a cavity of reserve of mucous membrane for the second permanent molar, and one also for the third molar or wisdom As the deciduous sacs, as well as the anterior permanent ones, increase in size more rapidly than the bones can elongate, this cavity for the permanent molars is pressed backwards into the maxillary tuberosity above, and into the root of the coronal process below; but in a few months after birth, as the jaws increase in size and length, the first permanent molar returns to its proper level in the dental range; the cavity of reserve behind them dilates into the space the first molar occupied, and in it is developed the papilla for the second permanent molar. In the course of time, as the jaws further elongate, this tooth advances and descends, and the remainder of the cavity of reserve dilates behind for the third permanent molar or wisdom tooth.

The permanent sacs at first receive their vessels from those of the gum, but afterwards from the temporary sacs; and as they retire into their own cells, these new vessels enter into new dental canals, which become permanent. In the course of a few years, and after all the temporary teeth have appeared, the further elongation of the jaws admits of space for the first true molar to protrude; this usually occurs between the sixth and eighth years, and sometimes even sconer. At this age there are fifty-two teeth in the two jawbones, viz: twenty deciduous teeth, twenty permanent beneath these, and the twelve posterior molars; and when all the anterior permanent teeth have become enlarged, they press upon the anterior wall of their alveoli, which soon undergo absorption; and then each tooth comes a little forwards into the lower part of the alveolus of the milk tooth; the fangs of the latter are absorbed and gradually wholly removed, and then the crown falls out of the sac, and the permanent tooth supplies its place.

The cause of the disappearance of the roots of the temporary teeth is sought for in the loss of nutrition from the pressure of the *subjacent* permanent tooth, and perhaps in contemporaneous increase in the general injection and nutrition, bringing on liquefaction and absorption. Some pressure is necessary, at all events, for whenever there is no pressure from below, the temporary tooth is not removed. But you

must not imagine that the permanent tooth exercises any immediate pressure on the blood vessels, thereby depriving the temporary tooth of its nutrition; if this was the case, the permanent tooth would exercise just the same influence, at a much earlier period, even while the temporary itself was not

fully developed.

The crowns of the permanent molar teeth, further, are perfectly unable to exercise any pressure on the blood-vessels of the temporary, as they are situated between their roots. The nutrition of the temporary teeth is impaired by two facts, first by the increasing development of the permanent themselves, and, further, by the development of the maxillary bones, which contract and partially obstruct the canals through which the branches of the maxillary artery penetrate to the tooth. The pressure of the permanent tooth on the temporary one is not at all direct; nor is it necessary that it should be so.

Nature usually, in building up and destroying, works very slowly and invisibly. A fine instance of what a slight pressure for a protracted period may effect, and how bones are absorbed from the pressure of a slight physical influence, is given in the fact, that aneurisms of large arteries at some parts of the body, where they are in the neighborhood of bones, destroy the bone by slow, gradual absorption. Thus aneurisms of the aorta are reported to have produced absorption of part of some spinal vertebræ, and I have myself seen two or three costal cartilages absorbed from the constant hammering against the chest by a large aneurism of the as-

cending aorta.

You see, therefore, that the pressure of the permanent tooth inclosed in its cell, on the wall separating it from the temporary tooth, it being slowly and continually forced upwards, may be deemed sufficient to bring the root of the temporary tooth to absorption. The effect of the permanent teeth is not in one direction only, for you know that the permanent teeth are not situated in the same horizontal line; the steady slow pressure is exercised upwards and laterally, thus the roots of the molar teeth are absorbed on their inner sides, and the middle permanent incisors press not only on the corresponding temporary, but the lateral ones also. The root of the temporary tooth, while being deprived of its normal nutrition by pressure exercised on the periosteum, is liquefied by the increased action in the surrounding parts, brought under

the influence of the numerous absorbent vessels contained in the sac of the onward growing tooth, and excreted like so

many other effete matters.

The vessels rendering this service to the organism have been made the subject of particular study by Boardet, who called them "appareil dissolvant," and Delabarre, that learned humbug and nostrum-seller, who comprehends them under the name of "appareil absorbant." This resorption can take place as long as the root is in some connection with the surrounding parts. If it ceases to be so, the vital powers of absorption are replaced by another; in this case the root has the general effect of a foreign body brought by some means or other into contact with and imbedded in the organism, to produce inflammation and to be removed by suppuration, Thus no resorption takes place even when the crown of the permanent tooth comes into immediate contact with the root of the temporary; in which cases the temporary teeth, particularly the molar, are found to be turned over and produce, by the effect of their sharp roots, deep ulcerations in the cheek, which will not heal before the temporary tooth is removed.

The permanent teeth appear no more nor less at regular periods than the temporary ones. About the seventh year, or earlier, as I mentioned before, the first permanent molar appears, nearly about the time when the first temporary incisors are replaced by the permanent. After all the incisors are changed, the anterior and posterior temporary molars are successively shed and replaced by the permanent bicuspids; the canines are changed about the tenth or eleventh year. About the twelfth or thirteenth the second permanent molars appear; the last molars, or wisdom teeth, usually some time between the twentieth and thirtieth.

Ossification requires but a short time in the deciduous teeth and longer in the permanent. A permanent incisor requires seven years, a canine twelve, a molar from eight to ten years. Ossification commences at the very same time in incisors and the first molars, as is proved by the dissection of the jawbones of infants who died in the first months after birth. It progresses more rapidly in the female than in the male sex; girls, therefore, have their permanent teeth sooner than boys.

In the lower jaw of a child three years of age, the permanent teeth are still in an oblique direction. Only the middle incisors, which are the highest, are in a nearly vertical posi-

tion: the lateral incisors are situated more inwards, and more obliquely; the lowest are the canine teeth. Higher, and between the roots, we find the molar teeth in their first stages of development, or rather the first one; for as to the second. we find nothing but the cells in which it will be contained in The time of its first formation is about the fifth year. As it requires about eight years for its complete ossification, it makes its appearance about the thirteenth year of life. The commencement of ossification in the third molar tooth, and particularly its appearance, is more uncertain, as it depends on local circumstances. It does not usually appear before the twentieth year, but in some cases, according to C. Harris, does not show itself, until the thirtieth or even fortieth year, and Canton extracted one for a gentleman seventy-four years of age, who informed him that it was not out until he had attained his seventieth year.

The maxillary bones of a child of from four to five years contain so many and so large cells for both the temporary and permanent teeth, that but very thin osseous walls form a bridge between the external and internal wall of the jaw-bones. Nevertheless, every tooth, both temporary and permanent, receives a ramification from the common maxillary blood-vessels and nerve. There is sometimes, according to Delabarre's observation, an anomaly in the lower jaw, of this sort, that the submaxillary artery and nerve, right at their entrance into the lower maxilla, divide into two branches, one of which feeds the temporary, the other the permanent teeth. The periosteum of the alveolar cell, being a mere continuation of the external periosteum, takes the blood-vessels from the maxillary artery, branches of which penetrate the porous osseous substance.

A very interesting subject relating to our investigations is that of the so-called third dentition. Is there at all a third dentition? Are those teeth which we are used to call permanent, not permanent, but subject to be temporary only in proportion to those which are to be as it were more permanent? Certainly there are a number of cases reported, in which the teeth are said to have fallen out twice, and to be replaced twice. There is one case even of the following description:—In a girl the first replacement, the second dentition, took place at six years, the third dentition at twelve; this latter was complete in a single year. This case, our author says, "is highly interesting for two reasons, first, be-

cause it occurred in a young individual, while cases of third dentition have been hitherto related of old people only; second, because all the teeth were replaced here by others, while the third dentition has always been incomplete, and limited to the appearance of two or three teeth only." gentlemen, looks so very interesting and beautiful, that I am afraid the reporter is greatly mistaken, or has been grossly imposed upon. Other cases of third dentition are reported, but scarcely any of such a remarkable kind as this case. all events we require a good deal of belief in the veracity or the judgment of a writer, if we are to take as scientific facts such reports as are in open conflict with the known laws of anatomy and physiology. W. Jackson has the cases of a man of sixty-four, and of a woman of eighty years, in whom a third set of incisors was observed; in one of them the old teeth had just fallen out to make room for the new ones. Sorgoni reports the case of a boy exhibiting a third dentition before he was twelve years of age, and Andral has collected from literature twelve cases of the same anomaly. Lison reports the case of a boy, Eugene Cavillan, thirteen years old, of young and healthy parents, of good constitution and well, and without any anomaly in his general development. The second dentition took place when he was nine years old. Soon after, all his twenty-eight teeth were replaced by others; the same occurrence took place between his tenth and eleventh year, and again between the eleventh and twelfth. When the case was reported by the author, the boy was said to be in his thirteenth year; at this age a new set of teeth was being developed; the first inferior molar teeth of the right side fell out, to give way to another that was already visible. teeth that had fallen out had no roots, which appear to be The removal and replacement took place always in the usual order, the teeth being small, white, and of normal shape and position. The gums were red and somewhat tumefied, and the general health of the boy satisfactory.

I consider it a characteristic occurrence that curiosities like those alluded to are more numerous in old, very old books, than in modern ones. Storch, alias Pelargus, who wrote in 1750, reports the case of a lady of seventy years, who, after having lost all her teeth for a number of years, had a new incisor at that advanced age. He further has the case of his own daughter, who cut five molar teeth in her twentieth year; lost them all, and had new ones in their place when she was

thirty-eight years old. Before this time, our author says, the lady was always sick from this abnormal teething—the symptoms enumerated, however, being evidently of uterine and hysteric nature; but after the last teeth cut, she became healthy, and strong, and fat. Old Paulinus relates the case of a Countess of Detmond, who lived up to a third dentition, in 1589, and grew one hundred and forty years old. younger Pliny has the observation of the last molar tooth appearing at eighty years of life; Schottus at forty years, in a physician of his acquaintance; Cardamus, the celebrated mathematician and inventor of the Cardamian Formula, is reported to have cut a tooth at forty-three; several soldiers at forty-three, forty four, and forty-five; several others, according to Sennertus, at sixty-three, seventy-five, eighty, eighty-one, eighty-eight, even at one hundred and four years of age. In an old book of 1725, there is the case of a woman of sixty-six years, who got not only new teeth, but new brown hair, instead of her former grey. Johannes G. Slevogt reports, in 1733, the case of a captain who cut new teeth at ninety-four years of age, and died soon afterwards; we do not learn whether the old man died in consequence of teething, or whether, if he had not teethed again, he would not perhaps have lived up to our times, and been still older than ninetyfour. But the greatest curiosity I have ever been able to hunt up is the following, reported by Möllenbroc, a century and a half ago. There lived at Leipsic a noble lady who had five children; with every confinement she cut a molar tooth. As soon as one of her new teeth got loose, the child who was born at the time when it was cut, was affected with some severe disease. If such a tooth fell out, she was always certain that the corresponding child was surely going to die. so it happened, adds our honest author, all the three children died before the mother. Thus you perceive, gentlemen, that as it is said to be customary nowadays that children die from their own teething, it was customary for children in olden times to perish from the dental troubles of their mothers.

Both Courtois and Aimonino have published cases in which a third dentition took place after the permanent teeth fell out; Courtois is of the opinion that the third dentition is observed in the incisors only. If such was the case, why, we must expect that the teeth of the third period were formed contemporaneously with those which were then eliminated by the growth and onward pressure of the subjacent ones. At

all events, the belief in a third dentition was so general formerly, that decayed teeth would be removed in the hope that a replacement would take place. Professor Nessel, whose name I have mentioned before, has observed a girl whose middle upper incisors had been extracted in the hope that they would reappear. But not only no new teeth appeared. but the space in which two teeth had been seated formerly was so much intruded upon by the neighboring ones, that but one artificial tooth found sufficient room afterwards. Now. what nature will not do in youth, she will hardly succeed in doing in old age, where all the reported cases of third dentition are said to have occurred. There is less probability of new germs of teeth forming and developing themselves in advanced life, than that there have been from the beginning supernumerary teeth; instances of which have been reported by Roysch, besides those enumerated in my second lecture.\*

The fact that teeth will protrude, sometimes, at old age, is undoubtedly true. Instead of being, however, the symptoms of a renewed power of reproduction, they are, in Professor Nessel's opinion, frequently the results of regressive life; as they become visible after the diminution of the alveoli, and the decrease of the thickness of the gums. Such teeth were always formed, but were either invisible from being sometimes incuneated like the canine, or from being covered by an osseous mass, like the wisdom teeth. The second molar tooth, particularly, has been observed to reappear in advanced age, but only after the temporary second molar had kept its place, and fallen out at a very advanced period of life. It is not a very rare occurrence that the temporary second molar tooth remains at its place up to the fortieth year, and thus there can be no mystery nor wonder about the fact that another tooth will make its appearance afterwards.

The temporary second molar tooth, however, is not the only one that will remain for a long period, and thereby retard the second dentition. Linderer reports the case of a girl who had her first permanent molar tooth with her eighth year, but whose second dentition did not begin before the fifteenth year. Another healthy and robust girl of fourteen years, who never had the four upper incisors, had all her other milk teeth, yet without there being any probability of an approaching change. Murat has the case of a robust young man of

<sup>\*</sup> American Medical Times, 1860, p. 419.

seventeen, who had all his milk teeth but five; and Bird and Maingault report similar cases. Other cases are noticed, by Linderer, of single milk teeth remaining up to the thirtieth or fortieth year; and Riecken gives the history of a man of eighty-five, who cut a number of incisors and molars, and is said to have suffered during his cutting a molar in his left lower jaw, from cerebral congestion, which was relieved, after local depletion had no effect whatever, by spontaneous hemorrhage from the inner angle of the eye. Finally, a woman of forty-three years was observed by Düntzer, who had all her milk teeth left. After she had been suffering from intense pain in her head and upper jaws, from swellings of the gums, and diarrhea, four teeth protruded behind the upper incisors: they were smaller and sharper, and troubled the functions of both mastication and articulation. After the lapse of a year, the same symptoms were observed in the right lower maxilla. which never had any molars before.

Kneissel reports the case of a lady who reproduced four inferior incisors in her fifty-fourth year, after having worn artificial teeth for some time; and a right upper incisor, in place of one that had just fallen out, two years afterwards. The teeth which had fallen out were undoubtedly the temporary ones that had never been removed, and finally fell out at an advanced age from being either pressed upwards mechanically, or being decayed; nobody can say which, as the report does not contain anything beyond the facts I have related. Professor Hessel has the case of a lady who cut a fine white canine tooth at fifty years of age. This tooth became more visible from year to year, not because of its growth, but because of the decrease of the alveolar margins of the maxillary bone. It had been, in his opinion, always formed and ready to protrude, and would have done so but for the other teeth occupying the space naturally designed for it. same author reports in his book on dentistry (1856) the case of a gentleman of thirty years, who still had his temporary upper incisors .- American Medical Times.

ALUMINUM IN GREENLAND.—The Edinburgh Courant states that two Danish vessels have sailed from Leith for Greenland, for procuring cargoes of cryolite—the mineral from which aluminum is obtained in largest quantities. Sev-

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eral very valuable minerals are obtained from Greenland. Plumbago is abundant in these regions; but the cryolite is the most important of Greenland's products, because aluminum is daily increasing in favor, as a most beautiful metal, capable of superseding silver for many purposes.

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A GENTLEMAN in Higginsport, Ohio, writes to the Journal of Materia Medica that he has used the pills of hydrocyanite of iron for epilepsy for several months past, and that he has had but one convulsion since, which occurred about two weeks after he first commenced. He has since been free from any symptoms of their occurrence.

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NEW SILVER ALLOY.—A beautiful new alloy is stated by foreign contemporaries to have been invented recently, after many experiments, by Messrs. De Ruols and De Fontenay, France. It is said to be well adapted for small coins and industrial purposes. It consists of one-third silver united with 25 to 30 per cent. of nickol, and from 37 to 42 of copper. Phosphorus is used as a flux in making the metals combine, but when first made and cooled, it is very brittle. To render it ductile, the phosphorus must all be removed by reheating, after which the alloy resembles a simple metal, and presents in a very high degree the qualities to which the precious metals owe their superiority. It resembles platina and silver of so in color; it takes a very brilliant polish. Its tenacity and hardness are extreme. It is ductile, malleable, and very difficult of fusion; very sonorous, unalterable in the air, and attacked only by the most energetic re-agents. It has no odor, and its specific gravity is but little inferior to that of silver. It is easy to estimate the important part such an alloy is calculated to play in the industrial arts, and especially in the silversmith's art-in, to a great extent, replacing silver, of which its price is 40 per cent. less, and as its hardness gives it a marked superiority. Again, articles which are merely silvered or gilt have, it is true, a great advantage in their low price; but they quickly deteriorate, and can be re-silvered or re-gilt only a very few times, after which they

must be replaced by new ones, and, in the long run, entail such an outlay as to confirm the old adage, that "the cheapest is the dearest in the end."

THE AMERICAN DENTAL CONVENTION will hold its seventh annual session at New Haven, Conn., commencing on Tuesday, the sixth day of August next, at 10 A. M.

It is desirable at this period in dental history to place the profession on a firm public basis. While the highest type of integrity shall characterize our professional efforts in our home labors, let us faithfully endeavor, even at personal sacrifices, to give character to the Annual Dental Convention, by contributing in person to the fund of knowledge obtained by hours of patient study and weary toil. Let the Convention be made worthy the appellation of "Sisterhood" to the American Medical Society. Although our field is not so varied as her's, there is ample scope for obtaining an advanced position, which will give increased efficiency, permanency and character to the dental profession. With "Excelsior" for our motto, let us earnestly coöperate in making our's second to none of the learned professions in the land.

I. J. WETHERBEE, Cor. Sec'y.

# Editorial.

"FILLING MOLAR TEETH-APPROXIMAL SURFACES."

In the Southern Dental Examiner for June there is an article on filling cavities in the proximal surfaces of the molar teeth, which, in two or three respects, it may not be amiss to notice. In the first place, the method of filling there described is not new, but is practiced by many, and has been described, but perhaps not just in the language here used. It is not objectionable, however, to describe an operation, though it may have been described before; especially

if any new phase or point can be presented, or even the old ones be made to assume a new and attractive dress. The objectionable feature is a presentation of this kind, and denominating it "my mode of filling." This style of speaking always conveys the idea that the method is "mine" by right of discovery.

There are two extremes in this matter: a man gets an idea, he studies it, and evolves it till he imagines it originated with himself—the other extreme is exhibited, when something really new and valuable is discovered and described by some diligent investigator, then some one, more wise than "any other man," announces that he has known all about that long ago.

The method of preparing cavities, as described by Dr. S., is good, at least in those cases where the lateral walls of the cavity are firm and not liable to be broken away in the operation of filling, or by subsequent accident. But this method of introducing the filling is not the best; it can hardly be said to be good; for he says "the filling is liable to come out unless the operation is done with a master hand." Can such a method be called a good one? It is certain if the "surface face"—face-face—(where is the face that is not a surface face?) becomes broken, the filling will very soon be destroyed. Into such a cavity, if a filling of adhesive gold be introduced with care and an ordinary amount of skill, though it be not "with a master hand," it will not come out till the walls of the cavity are broken away from it.

There is another feature of this article which it may be well to notice, and that is the very free use of the personal pronouns I and my. Dr. S. is not the only member of the dental profession who indulges in this direction, but there is a bountiful supply of No.1 personal pronouns in this article; on the first page there are twenty-three, and in nine lines of this page I and my occur ten times; this style of writing is usually regarded as indicative of egotism. This little word may with propriety be used occasionally; but to thrust it in at every point where it can be introduced, is pretty good evidence that the writer stands well in his own estimation.

The following is in rather bad taste, to say the least: I prepare my gold foil, I take No. 6. The idea would have been quite as clear, and less objectionable, thus. Now prepare the gold foil, No. 6.

In the article under review, the objectionable frequency of this

little word could have been obviated by a little attention on the part of the writer, if he had been disposed to do so. Dr. S. is not a sinner above all men in this respect; there are others worse than he. Some of the discussions of the dental associations are shamefully egotistical. I take my file and separate my tooth; then take my excavator and clean out my cavity. I make in my cavity my retaining points at the bottom. I prepare my gold for my filling in the form of blocks; I take up my gold on the point of my instrument and place it in my cavity.

Now, any one would say this looks silly in print; well it does, but then it hardly comes up to the point of egotism sometimes exhibited in discussions in dental meetings. It is true that the agony is not brought out in full in the printed reports.

After an article is written, just strike out all the first personal pronouns, and see if it does not look quite as well. Three or four on a page is admissible, but when it comes to thirty or forty, it is abominable.

T.

### FISTULOUS OPENING THROUGH THE CHEEK.

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Mr. N, aged twenty five, called to have a tooth extracted, on account of periostitis and incipient abscess. The tooth, a second lower molar, was easily removed, and but little hemorrhage followed its extraction. The tumefaction, however, continued and increased. A lead cap was fitted over the tumor, and pressure kept up, by means of lint and collodian strips. The swelling disappeared, and the cap was removed.

A month after the tooth was extracted, a small white tumor appeared on the outside of the cheek, and in a few days discharged a thick, unhealthy pus. About six weeks later, my attention was again called to the case, when I was surprised to find that there was nothing like granulations in the socket. Water, injected into it, passed entirely through the cheek. Indeed, a fine probe was readily passed into the opening in the cheek, and up through the socket.

Having satisfactory evidence that there was no venereal taint, I concluded to rely, at least for a time, on local treatment.

The fistula was washed out with tepid water once a day; and,

about twice a week, tincture of iodine was freely applied to its entire surface. The treatment was continued for two weeks, when the appearances were so favorable that the case was left to nature, watching closely, however, for any unfavorable symptoms. In four weeks from the commencement of the treatment, all was well.

This patient had always a weak constitution—was a printer, and was well marked with that pallor peculiar to his craft. The powers of life being feeble, active and frequent local medication would have probably destroyed rather than built up the parts to which it was applied. This remark is made from the known fact that many are in the habit of making daily applications of even active escharotics, in such cases.

W.

#### EXCURSION TO CHICAGO.

-O D-

On the 24th ult., about twelve hundred of our citizens started on an excursion to Chicago, over the Cineinnati and Chicago Air Line Railroad, by invitation. The excursionists occupied three trains, consisting of twenty-two cars. They passed smoothly, safely and pleasantly over the road from Cincinnati to Chicago in about twelve hours, one hour more—owing to the heavy trains—than the running time. A portion of the road has recently been built, and is not as smooth as a well kept old road; but that will soon be remedied, for it is being ballasted, and will be in perfect condition, as soon as the new portions of the road become thoroughly settled.

So far as the travel between Cincinnati and Chicago is concerned, this road has all the advantages of any other, and some that no other route has or can attain. There are no heavy grades, and the road is the straightest over which we have ever traveled; almost the whole distance, the road is without any perceptible curve. These two conditions lessen very greatly the liability to accident; both curves and strong grades are hard on machinery, wear it rapidly, and render breakage far more liable; the road, too, is far more likely to get out of repair.

Again, the running time on this road is two hours less than by any other; this is not so by greater speed, but the road is forty-two miles shorter than any other, so that the same speed being made on this, as on the other routes, more than two hours would be gained.

Close and certain connections are made with other roads extending or radiating from it. Care for the comfort and safety of the passengers is a prominent idea with the officers. This road must, if rightly managed, so soon as it becomes known, take all the direct travel between the two cities.

We refer to this road, because we think those who travel should know the safest and most direct routes between important points.

T.

## CLOSURE OF THE PAROTID DUCT.

Last week, Miss H. complained of fullness and slight soreness of the left cheek. On examination, the teeth were found healthy and comfortable. A more minute examination revealed the fact that the parotid duct was closed. At the side of its late outlet was a tumor the size of a pea. I transfixed this with a curved bistoury, and divided it into two flaps, and proceeded to explore with a probe, expecting to find the duct obstructed by a small calculus. Being unable to penetrate the duct to any extent, the flaps of the tumor were divided, making a conical incision; and the patient was directed to use fomentations, and to keep the general health in as good condition as possible, hoping that, with the abatement of the local inflammation, the duct would become pervious. If it does not, what shall I do? Do tell, kind reader.

#### DISSOLUTION OF THE UNION.

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No reference to politics, good reader, nor to the state of the country; for this is the Dental, not the Political Register. But our profession has been long familiar with, and benefited by another union—the union of the talents and business energies of Messrs. Jones, White & McCurdy. And this union is dissolved. As our readers know, it was partly dissolved, some time ago, by the withdrawal of Mr. M'Curdy; but the title, thus changed, did not sound so strangely, for, as long names are commonly abbreviated, we were sometimes content to say "Jones & White," and think "McCurdy." But now—that "threefold cord, not easily broken," is untwisted, and each strand is a string by itself. Now we are

done with Jones & White's teeth, Jones & White's foil, Jones & White's operating chairs, Jones & White's everything a dentist wants. Now, when we visit Philadelphia, New York, or Boston, the friends we leave behind us will no longer address us, in parenthesis, "Care of Jones & White;" for "Jones & White" non est.

Jones, White & McCurdy—Jones & White. Why, our pen likes to write it! We made calculations for some changes—expected that comets would come, that empires would decay, and new ones spring from their dust. Little things like these we looked for; but we didn't expect to be a member of our profession without any "Jones & White." But the thing has come to pass. Things will happen sometimes: and they appear to happen much faster, and a great deal oftener, now that the old man of the hourglass and scythe has silvered our foretop with his icy touch, than they did when our locks were flaxen, and our brow unwrinkled. Then it would have taken the man of destiny a long time to do away with "Jones & White;" but now he drives in a gallop, and that is why we are out of a "Jones & White."

Well—if we haven't the article, we still have the stuff it was made of; and so, Long life to Jones, to White, and to McCurdy.

W.

#### MICROSCOPIC.

In the preservation of teeth or other animal tissue for microscopic examinations, the chief object is to keep them in a natural condition. To effect this, they should not be allowed to dry or decompose in any way or degree; this may be secured by at once bottling them in whisky or other spirit of equal strength, or a saturated solution of common salt. Soft tissue in solution of half this strength will be preserved with less change.

T.

American Agriculturist, for the Farm, Garden and Household. This is a monthly journal of agriculture, of 32 pages, published by Orange Judd, New York. It contains more matter than any other agricultural paper in our country. All subjects pertaining to agriculture and horticulture are discussed in the most thorough and practical manner. The most common-place subjects are taken up and treated so as to elicit new interest and attention. The topics of discussion are presented in such a manner as to be attractive and interesting to all classes of persons.

Almost any one who takes it up will examine it throughout. This is just the paper by which to become posted in all those little matters pertaining to agriculture and horticulture that are interesting to all classes of persons. This paper should be in every family; for from it a fund of knowledge may be gained that will be useful in a great many ways, and to every body. It is published at one dollar per annum.

### THE

# DENTAL REGISTER OF THE WEST.

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# Original Essays and Communications.

### THE AMALGAM QUESTION.

That various morbid symptoms may be produced by what is commonly called mercurial poisoning is no longer doubted; but it is still a question whether or not free mercury is poisonous. Christison and others maintain that it is not; while Orfila, Buchner, Pereira, and others maintain the opposite. The question is, however, of but little practical moment; for all these, and everybody else, agree that many, if not all, of the compounds of mercury are poisonous. It is well known that the metal applied externally, or inhaled in the form of vapor, will produce constitutional results; but whether or not it loses its metallic state, by combination with some other element, before it acts thus on the system, is not yet determined.

Salivation, ulceration and sloughing, and shaking palsy (tremor mercurialis) are the diseases most frequently produced by the action of mercury; and of these, the first is much the most frequent. The last mentioned is usually produced by the long continued and very gradual introduction of the drug into the system. Gilders, barometer and looking glass manufacturers, and workers in quicksilver mines are frequently affected with this disease; and, if their occupations are not abandoned, more formidable, and usually fatal diseases supervene.

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An important practical question arises, as to how much of the metal, or how much of any one of its compounds, is necessary to produce observable constitutional effects. here it is well known that striking differences will be manifested by different constitutions. Some persons can take large mercurial doses without inconvenience, while others are poisoned by very minute quantities. Accidental causes, no doubt, have often great influence; and the whole question is, to some extent, involved in difficulty, as we are not able to define, positively, the mode of action of this powerful drug. It is evident that the metal is absorbed, and deposited in some part of the system, or is thrown out by excretion. And as there may be great variations in the absorbing and excreting powers of the same person, at different times, it is not strange that the same constitution is more susceptible of the action of mercury some times than others. Mercury, according to Schubarth, Weller, and others (see Christison on Poisons), has been detected in the blood, in the sweat, the saliva, in the urine, the bile, the intestinal secretion, and in the fluid of ulcers. It has also been found, in its metallic state, in the bones, brain, pleura, lungs, cellular tissue, synovial tissues, the humors of the eye, etc. And it is evident that its constitutional effects are owing to its absorption; for these are the same, whether the mercurial is applied to the skin, to the mucous membrane, or injected into the veins.

Bearing these things in mind, (and they are the views of the friends of mercury,—not those of its enemies) it is not unreasonable that we should, at least, be cautious in the use of an agent so powerful. And with this view, it may again be asked, how small a quantity of any mercurial is capable of producing observable constitutional effects.

In Pereira's Materia Medica, vol. 1, page 594, note, a case is described, in which there was, evidently, a strong idiosyncrasy against the use of mercury. "A patient of Mr. G.'s, of the Borough, desired him never to give her any mercury, as that drug was a poison to her whole family, to which he,

without arguing the point, at once assented. In Mr. G.'s absence, the late Mr. C. was consulted as to some trifling disorder of the bowels, and, not knowing the peculiarity of his patient's constitution, prescribed two grains of calomel. The next morning the lady showed the prescription to Mr. C., saying that she was sure she had taken mercury, as she felt it in her mouth. In a few hours ptyalism ensued; in consequence of which she lost her teeth, her jaw exfoliated, and she ultimately, after a succession of ailments, died, in about two years.' According to Culerier, six or eight grains of mercurial ointment have often sufficed to excite violent salivation. Usually, half the weight of this ointment is mercury. Of the black oxyd of mercury, the dose is from half a grain, to two or three grains; and salivation is often readily produced by the administration of a few doses.

When calomel is administered as an alterative, the usual dose is from half a grain to a grain, and it is well known that observable constitutional effects often result from these doses. Pereira refers to the case of a lad, aged 14, "in whom six grains of calomel apparently produced inflammation and ulceration of the mouth, enormous swelling of the face, mercurial fetor of the breath, mortification, and death. There was no ptyalism." This is an exact description of a case that occurred in my own practice, in 1845, except that the patient was a girl, aged 12.

The dose of chloride of mercury (corrosive sublimate) is from one-sixteenth to one-eighth of a grain; and, if administered in quantities much greater than these, it is apt to gripe and purge.

From these observations and quotations, it would be readily inferred that, at least, some of the mercurial compounds are very active and powerful medicines or poisons, as the case may be. Indeed, we have seen many cases of severe salivation, caused, respectively, by a single blue pill of three grains I know that such cases are regarded as exceptional; but they

are so frequent that their claim to such regard is scarcely valid.

It is well known that mercury is but slightly vaporized at ordinary temperatures. Not only is the quantity of vapor formed small in quantity, in proportion to the surface exposed, but, being nearly seven times as heavy as air, it rises but a small distance from the surface. If gold leaf is suspended over mercury, it will be whitened by amalgamation to the height that the vapor rises. The barometer maker's danger is, therefore, mainly from contact with the skin, and not from inhalation. As this contact is not extensive, the mercury must be very slowly introduced into the system. Yet it is well known that his occupation is not a safe one. That a very slow and greatly prolonged introduction of this metal into the system is capable of producing injurious results, is a well recognized fact among scientific men. Dr. Scheele reports "a fatal case, attended with salivation, brought on from wearing at the breast, during six years, a leathern bag, containing a few drams of liquid mercury."

But this is the "amalgam," not the mercurial question; and we, therefore, proceed to inquire, in view of all the facts known to science, whether or not it is at all reasonable that mercurialization should result from amalgam fillings in the teeth.

Amalgam plugs are usually large, as none but quacks insert them in small cavities. We have weighed some freshly inserted, and many that were considerably corroded, and have found a number weighing over forty grains each. Many are much smaller. We have many times seen two, three, or four large ones in the same mouth; and in one mouth we saw seventeen, large and small. But, for illustration, let us suppose a case in which eighty grains of amalgam cement are inserted. This is not an extraordinary case. Four molars, with a small plug each, would fill the bill. If the silver amalgam is used, about one-half the weight is mercury. If the silver

and tin, the proportion of mercury is not quite so great. For convenience of calculation, let us take the former.

The forty grains of mercury (even though inert in the metallic state, which is not yet proved, however,) would make two drams of blue mass, or forty officinal blue pills. They would make about fifty-four grains of corrosive sublimate. They would yield forty-seven grains of calomel, or nearly forty-two grains of black oxyd of mercury.

Now no scientific man could be surprised at witnessing constitutional effects from the presence of such quantities of any one of these drugs.

But the amalgam advocates may, and do object that these compounds are not liable to be formed in the mouth; but. with the next breath, they go on to lament the "blackness," "discoloration," "coloration," etc., through all the changes, ascribing it all the while to oxydation, thus acknowledging that the last named drug is almost invariably formed. And it is objected, too, that if formed at all, these drugs are formed, and, therefore, introduced so slowly and gradually, that they can produce no perceptible effects. But such objectors manifest an ignorance of scientific truth hardly excusable in this enlightened age of the profession. The slow and gradual introduction is the important point to be considered. It is here that the danger lies. When rapidly introduced, the system is aroused, and rebels; and much of the poison is ejected. This slow introduction is nothing less than "nurturing up wrath against the day of wrath," as in the case of the man that wore the metal in a leathern bag. The poison could only pass infinitesimally into his system; yet in six years it did its work. And those who wear amalgam plugs in their mouths for six years, and especially for "fifteen years," have no security that their fates will not be similar. Indeed, many cases occur in which there is severe mercurial disease, while neither physician nor patient suspects the cause. The physician is deceived by the patient's assertion that he has taken no mercurials, or perhaps no medicines of any kind. Many

cases that pass for "spontaneous salivation" are the legitimate result of the presence of amalgam plugs in the mouth. A case of "shaking palsy" occurred in our practice in 1850, which resisted treatment for two months, growing worse all the time, and which recovered promptly, without farther treatment, after removing several amalgam plugs from the teeth. And we must be excused if, when we read of old practitioners, whose neighbors, as well as themselves, have been, all along, using amalgams, and who yet assert that they have never seen a case of ptyalism, or other constitutional disease, arising from their use—we must be excused, if we look upon them "with considerable doubt as to the value of their judgment or opinions, as reliable diagnosticians."

It would be amusing, were the case not serious, to witness the varied positions, and the arguments to sustain these positions, resorted to by those who deny the fact of mercurial poisoning by amalgam plugs.

One believes "the profession had never heard of but one practitioner who thought that the result (ptyalism) was produced by amalgam." But this only proves that he has not listened through the ears of the profession, perhaps not even with professional ears.

Another can not believe that amalgam fillings can produce ptyalism, because this is produced through the general system, whether the mercury is used externally or internally. Now it is not probable that any one believes that amalgam plugs can produce ptyalism by mere local action.

Another is a disbeliever, because "it is well known that mercury, uncombined, is inert"—which is merely an assertion, and because "equally so must it be when combined with silver or tin,"—which is a mere assumption. And he is farther confirmed in his position, from the fact that "the protochloride of mercury (calomel) and deuto-chloride of mercury (corrosive sublimate) are formed from sulphate of mercury and muriate of soda, triturated and sublimated. As this process can not very well be carried on in the mouth, it is hardly

supposable that they are elaborated to any extent." Well, there is chemistry for you; but it is

"Science distorted and torn into bits,
And tortured and frightened half out of her wits."

Are we to infer that chlorine and mercury can combine only under the circumstances here detailed?

It is rather surprising, and quite mortifying to witness the lack of knowledge manifested by many of the profession, in regard to the obvious and ordinary constitutional effects of mercury. When it is objected to the use of amalgams that there is danger of mercurial poisoning, the answer is that abscess, exostosis, and necrosis occur in mouths where no mercury is used, as if these were what is meant by constitutional effects of mercury. And where a genuine case of poisoning is presented, it is referred to some other cause than mercury, because "many cases of irritated gums looking terribly enough had yielded to proper constitutional and local treatment," as if irritated gums were all of ptyalism, and as if acute ptyalism were not amenable to treatment. Any scientific dentist would infer that there is greater danger of mercurialization, from this source, when the fluids of the mouth are acid, than when they are alkaline. If a case of ptyalism presented itself, and the amalgam plugs were allowed to remain, a part of the proper treatment would be to secure an alkaline state of the saliva. And he would infer that the disease was, most likely, the result of either the oxydation or chloridation of mercury; and as its compounds with sulphur are far less poisonous than its oxyds or chlorides, and are nearly insoluble, he would take such measures as would secure its sulphidation. We make these remarks, merely to remind the reader that even ptyalism is amenable to proper constitutional treatment; and hence, yielding to treatment is no evidence that the disease is not ptyalism. If the corrosion of the mercury is stopped for the time, the disease will usually exhaust itself, and recovery will take place without direct treatment.

One disbeliever suggests that many of the cases taken for the effects of mercury are the result of "mechanical irritation,—which would have resulted just as soon from an equally bad gold plug." Now every one who understands the subject knows that mechanical irritation never did, and never will produce results very much like mercurial ptyalism.

It is well known that ptyalism may be, and is produced by other causes than mercury. There is what is called "spontaneous ptyalism." And it is cordially admitted that in a large majority of cases, in which amalgams are used, no observable constitutional effects result. But it will not do, on this account, to deny the fact of mercurial poisoning by amalgam plugs. The same warrant is afforded for the denial of mercurialization from any source. In a large majority of cases in which mercurials are administered, no poisoning is observable. Indeed, it would be no more than consistent for some of our disbelieving brethren to write an article to prove that both mercury and its compounds are inert. They would be at no loss for arguments stronger than those they are in the habit of using in discussing the "amalgam question." Why, a patient has taken over fifty drams of calomel, in less than as many hours, "without the least sensible effect." Take the position, and stick to it, that calomel never produces ptyalism. And if it should occur while the patient is taking the drug, be firm and consistent, by claiming that it was about to occur any way, and has resulted simply from "mechanical irritation."

### WHO ARE DENTISTS?

BY WM. A. PEASE.

THERE appeared in the July number of the New York Dental Journal an article by Dr. J. Allen, reviewing an article of mine, published in the Dental Register of March preceding. It was headed, Who are Dentists. In the August number of the Register and Cosmos the same article appears as an original contribution; to which, however, has been added a page of original matter. When the article was first read in the N. York Dental Journal, it was thought, although the tone and aim of it, and the manner of quotation were any thing but fair and commendable, that it did not require an answer. But, since it has been received and published as an original contribution by two other dental journals, it is fair to presume that they view it with considerable favor, if they do not endorse its general aim and scope. Perhaps on that account, but more especially on account of his peculiar manner of quoting the article in review, by which injustice is done me, it may be proper to notice some of his quotations and the more important parts of his article.

Every dentist is aware of the ignorance of the public, of the capabilities of dentists; and he is frequently inquired of as to the comparative value of different operations, materials and methods of inserting artificial dentures. To enlighten the public mind as far as practicable, early last winter I concluded to write a series of articles for the popular reader, to be first published in the Register, in order that they might reach dentists, who, if they approved of them, could have them copied, in whole or in part, into their local journals. These articles were designed to be practical, to present prominent, salient points in paragraphs, often but little connected with one another, and lumbered with few conditions or exceptions, that they might be the better remembered. They were designed to show, what the people had a right to expect from dentists, and dentists from the people, the comparative value of different operations, materials, and what might reasonably be expected from mechanical dentistry; to show that there are two classes of dentists, operators and mechanics, and that the person who devotes his attention principally to mechanics will generally follow the bent of his genius and skill, and be less likely to be either skillful or successful at the chair; and, on the other hand, the operator will save more teeth. Thus, in

the first article, the prominent fact was stated that previous to 1854 ulcers at the roots of teeth were generally intractable, and the teeth became a nuisance in the mouth, and had to be removed; that since that time the necessity of extracting them no longer exists. This was stated as a prominent fact, to excite attention, and it was unincumbered with the conditions, exceptions, or the percentage of failures it would have been necessary to have given, had the article been written for the profession.

Thus, having given the history of the origin of the articles, I shall now proceed to notice Dr. Allen's review. His first quotation is as follows: "Dentistry as a profession is of American origin. It had its rise in a great public want which nowhere but in the United States has, or could have existed; and there is little likelihood that it ever will exist in any other country." The reader will observe that the Doctor omits the words in italics, which are important to the sentence, if not to the sense. He then makes these remarks: "The idea here conveyed is, that teeth do not decay except in America. This is an egregious error." The idea there conveyed is precisely what it says; and had the Doctor been as anxious as he claims, to chronicle facts and discard error, he would not have written as he did. That was the more unnecessary, because, if he had looked back one short month to the number of the Register next preceding (February) he would have found the reasons upon which that paragraph was based stated more in detail. That he must have read the article, there is reason to believe, because he goes back more than a year, and quotes from another article a line that suits his purpose; and he appears to have been industrious in searching for authorities; not to vindicate the truth of history; not to show when dentistry as a profession originated, for, for these he probably does not care a fig; but, apparently, for an ulterior purpose, which will be more and more apparent as this article progresses; when at last it will be seen that the cause for which we are indebted for his review exists, not in the first, but in the

third article of the series. Dr. Allen continues his quotations. "The want that gave it birth gave it also a vigorous growth, unexampled in any other profession—for dentistry can not truly be said to date back much earlier than 1840; and as a profession, by which is meant the point of time when dentists felt competent to say to the people that, accidents excepted, there is no longer any need for them to lose their teeth, is of as recent date as 1854. The Baltimore College had just been established, and it was thought that, by scientific investigation, means would soon be found to preserve the natural teeth, and thus diminish, if not entirely dispense with the necessity for artificial substitutes." The reader will observe that following the figures 1840, and before the words The Baltimore College there is part of a sentence in italics. There was then omitted with that about a page of matter, without any sign of such omission, which should have been there in common This matter was important to the just interpretation of the passage, because it was explanatory, and showed what was considered professional dentistry, and what not-it showed that I was not unmindful of what had been done previous to 1840; for it was there stated that porcelain teeth were first made in France about 1820, and that Washington bought a set of teeth (1799), carved out of a solid slab of ivory. It moreover spoke well of mechanical labor, which Dr. Allen complains that I depreciate, viz: "This art (mechanic) was justly highly appreciated, because it was very useful, and gave dentists a high position in popular estimation; it opened the way for dentistry as a profession." this passage had been quoted, it would have been unnecessary for him to have advised me to go back 400 years B. C. to find the origin of dentistry; for it would have been apparent that I had already gone back to a time when it was sufficiently primitive and rude.

It is astonishing that a man of Dr. Allen's intelligence should put himself to so much trouble to establish a point of no practical importance; for, even if it is true, as he quotes from Hippocrates, that natural teeth, those made of bone or ivory were fastened to other teeth in the mouth by ligatures of flax, silk, or gold or silver wire, they would have about as much claim to be called even mechanical dentistry beside his continuous gum, as that Eve's fig leaf would to be called millinery beside the dresses for a court ball. It is well enough for an antiquary to go mousing around among old musty books, or to puzzle his head with hard Greek; because he may find something curious, or that will show that the primitive people of the earth had the same wants as those of today; and he may discover their first attempts at supplying them, which is a laudable undertaking for a gentleman of leisure and slight utilitarian proclivities; but for Madam Flounce, the Court milliner, to declare that Eve was the first dress maker, and as such, was entitled to full recognition by the sisterhood, would show that she is not particular as to her professional associates, whatever it might as to her judgment or taste.

The truth is, Dr. Allen is drawing it rather fine; and when he seriously prints as one to be believed, a statement like the following, it shows that he has a capacity for credulity truly Oriental: "Herodotus informs us that dentistry was practiced in Egypt as a distinct branch of surgery at that time; and corroborating evidences now exist in the fact that good gold fillings have been recently found in the teeth of mummies, which must have been inserted more than two thousand years ago." That gold has been found, not good gold fillings, in the teeth of a mummy is known to the public, as it has gone the rounds of the papers and the dental journals. A writer in the New York Dental Journal says: "We do not, however, think that implicit reliance should be placed upon the statement that, because these bodies were found with gold and aromatic preparations in the teeth, it follows that filling teeth to preserve them was customary in life." He suggests that it was used to preserve the teeth after death, -a part of the embalming process. He continues: "But another explanation of the reason of the Egyptians for using gold in the teeth exists in the well known fact that this metal is constantly discovered in mummies, in various forms, and applied to various uses. Thus have been found gold plates in the mouth and upon various parts of the body, and gilling the organs was a favorite mode of ornamentation, in the embalming of exalted personages. But the general practice of dentistry does not appear to have been necessitated in those days, by the condition of the teeth; for certain it is that in the mummies which have been exhumed by the many explorers of those buried cities of the dead, many evidences exist, showing the teeth to have been perfectly sound, untouched by disease at the time of death."

These extracts show how much importance is attached to the discovery of gold in the tooth of a mummy by a writer, who had no case to make out; and who did not wish to exalt ancient at the expense of modern dentistry. They moreover show that there was no great public want for dentists at that time. That some rude efforts were made to replace the teeth when lost, even in ancient times, is known to all persons versed in history. That, until about the commencement of the present century, there was very little improvement in the manner of tying natural teeth or those made of bone or ivory to the natural teeth in the mouth, from that described by Hippocrates, and already quoted, can be proved by abundant evidence. A similar notice is quoted from Cicero: De leges, ii. 24, "Cui auro dentes vincti erant;" and Martial also says:

"Sic dentata tibi videtur ægre, Empti offibus Indicoque cornu."

Without multiplying quotations or authorities, it will be sufficient to state that this was the condition of what the Doctor calls dentistry to a very recent period. The next step in improvement consisted in carving solid slabs of ivory to fit the gum; when teeth were either carved upon that, or holes or sockets were drilled into it for the reception of natural teeth. Of this class were the sets of teeth made for Wash-

ington. Porcelain teeth were first made about 1820, and at about the same time plaster of Paris models came into use. Thus it will be seen that teeth, mounted upon gold plate. could not have been used prior to that, and it is probable they did not come into use for several years later. Dr. S. S. Parmly, in his Lectures on the Natural History and Management of the Teeth-N. York, 1821, p. 31, says: To obviate objections of this kind (to human teeth) I have had recourse to a safe and durable substitute, equal, by its several advantages, to the human teeth, in those of certain quadrupeds. smaller than the hippopotamus, and possessing, at the same time, a finer enamel." On the same page he says: "Artificial teeth have been formed of what has been termed mineral paste, which is a substance similar to fine porcelain." These teeth were made by M. Maury, of Paris, and were, doubtless, a great improvement on bone work, but Dr. Parmly nowhere intimates that he ever used them. All the French porcelain teeth I ever saw, previous to 1840, were very badly shaped, and they were similar in color to the common table ware of the time. Dr. Allen, after quoting the names of several writers on the natural history and the anatomy of the teeth, etc., the most of whom, after Hunter, wrote from about 1800 to 1830, says: "From these and others we have culled the basis of our profession; and Americans have done much, it is true, to elevate dental science, and a just tribute is now accorded to them by the Europeans, as well as those of our own country, for it. But to say that dentistry originated here in the United States is a false assumption, that should not be handed down to posterity in our dental records of the present era." It is true that most of our knowledge of anatomy, materia medica and therapeutics is derived from Europeans. It has been gathered there, a little by little, for several centuries, and of course it forms, with modern physiology and therapeutics, the basis of our profession. But none of these writers knew anything of the modern treatment of diseased teeth, or of dental periostitis; and it is believed that no European physician or surgeon could now pass a dental examination on periostitis of the teeth, unless he derived his knowledge from conversation with dentists or from the perusal of their works. Even Tomes' Dental Surgery, American edition, 1859, says nothing of the treatment of acute or chronic periostitis, as now practiced, but he says in substance, if the disease does not yield to leeches or some topical applications, the tooth must be extracted.

Within a few years, distinguished writers in the London Lancet have sneered at and cautioned practitioners against using arsenic for the destruction of the nerve, as a dangerous American practice. To show that American dentists early obtained a high reputation in Europe, even at the time when some of the authors quoted by Dr. Allen were writing and publishing their works, it is only necessary to say that Dr. Parmly was practicing there with success before 1820. American dentists are still the first in Europe, though no better than their brethren at home. To show the early reputation of American dentists abroad, I append the following note:

"MY DEAR MRS. ROLAND:—A most excellent and skillful young man, recommended by Astley Cooper and Carlisle, the celebrated surgeons, is the bearer of this note to you. Mr. Montague desires me to say that if you ever want any operation on your teeth, you will be forever obliged by his pointing out this operator, for whom we have a great regard. He has put in a tooth for Mr. Montague, so skillfully as not to be detected by the nicest eye, upon an entire new principle. Any civility Mr. Roland is disposed to show Mr. Parmly, in recommending him, will be considered as an obligation by Mr. Montague.

I am truly yours, with kind regards,

LONDON, SEPT. 1, 1819. D. B. MONTAGUE."

Of Dr. Allen's next quotation a paragraph must here suffice: "At last, in 1854, a rational theory was promulgated for preventing ulceration and curing ulcerated teeth, and

about the same time, as if to fix and make that the initial point for the advent of dentistry as a profession, several improvements were made in preparing gold for dental purposes, that enabled dentists to make much more dense and durable The dental profession was then fairly fillings. established. In theory, at least, there was no longer any, or but little need of mechanics or manufacturers of artificial sets of teeth." But of these discoveries, which gladdened the hearts of all true dentists, which opened new fields for labor and usefulness, which made it possible for them to serve their fellow-beings in a nobler walk, -without mutilation, without changing the expression or individuality, without severe pain or loading the mouth with a costly and cumbersome piece of mechanism, the Doctor makes infinite merriment. He cries Eureka! and chuckles in his glee at the idea of founding a profession upon several simultaneous discoveries of means to save important organs, when diseased, which before were unsavable, and which rendered it possible for dentists to dispense with mechanical labor. His next quotation is from an article of mine, published more than a year since in the Register. "Never warrant your operations for a day; make your plugs stick, but do not warrant them to do so." Since he has called attention to this paragraph by quoting it, I will commend the rule to his serious consideration, and I hope he will adopt it in his practice. He then continues, in a strain of levity unbecoming the gravity of the subject and the momentous interests of society dependent upon the labors of professional dentists, to cast a doubt upon the efficacy of their operations; and quotes a law of England, passed in 1770; the application or apposition of which to the subject is not very apparent, unless he uses it as an authoritative proof that some teeth were lost one hundred years ago. If such was his intention, it could have been expressed in terms much more clear, pertinent and perspicacious, and he would have been believed without any endorsement. Again he quotes: "There are two classes of dentists, or rather there are dentists and me-

chanics, from whom very different treatment may be expected. The one, basing their practice on a knowledge of the human system and the laws that govern it, will preserve the natural teeth; they will refuse to extract them simply because they ache or there is a gum-boil at the roots." He there makes a full period, where there was a semicolon in the text, thus making the refusal absolute, and, after omitting about a dozen lines, which contain some of the conditions on which they will extract them, viz: " or if they do it, they will do so reluctantly for persons who persistently demand it, and refuse to submit to the necessary treatment to preserve the teeth." A remarkable omission for a reviewer, who has hitherto complained that the article he was reviewing contained too few conditions or qualifications of statement. He then continues by quoting the first proposition of the next sentence: "The patients of the first preserve their teeth." And there ends. omitting the balance of a long sentence, and leaving it to be fairly inferred that he sought, by adroit quotation and omission, to annoy rather than to vindicate the truth, and to convict the writer he was reviewing of a contradiction, in terms. This is rendered the more probable by the question he immediately and exultantly asks: "Then why do they ache and have gum-boils?" The answer to this is ready. The patients of competent, professional dentists-those who place confidence in them and follow their directions, very seldom have toothache or gum-boi's. Knowing the value of natural teeth, they have them attended to and plugged as soon as decay commences. It is their new patients, those who have listened to the promises of, and placed confidence in mechanics or incompetent operators, until they have got them into serious trouble, from which they are unable to extricate them, who present these cases for treatment. Is the answer satisfactory? The Doctor continues his quotations: "The patrons of the other get a set of shining white teeth, which every one knows to be artificial, in return for which they are but imperfeetly nourished," etc. (See Register, page 468,) and adds: vol. xv.—32.

"Although there may be some to whom the above remarks may be applied with truth, yet, to speak thus disparagingly of all who insert artificial dentures, evinces one of two things: either that the position that he occupies in the profession is unfavorable to command a full view of it; or his zeal to eulogise one branch of dentistry at the expense of another, has warped his better judgment." In reply to this, I have but to say: No true dentist, who desires or labors for the elevation of the profession, and the best interests of his patients, although artificial teeth are made in his office, or he makes them himself, will feel in any way compromised or aggrieved by the above paragraph. While conscientiously discharging his duty to his patrons, he will regret the necessity of making them, and that people will be so careless or infatuated as to require it; but he will feel that neither he nor the profession are in any way injured or disrespectfully used by any man, who habitually and studiously labors to convince people of the value of their teeth, to induce them to preserve them and avoid artificial ones. If the conduct there described does not apply to him, he will rejoice that it was written.

The difference between Dr. Allen and myself is one of definition. I define dentistry as a profession to consist in chair operations and the employment of such medicinal means, whether internal or topical, as are adapted to preserve the health or teeth, or to restore them when impaired. He gives it a much greater latitude.

Can it be possible the hypersensitiveness manifested by Dr. Allen can be due to his long continued study and experiments to improve continuous gum; and that he is verging on that psychological condition, often met with in inventors and persons who have taken out a patent, described by two Greek words, which, if his reading of Greek literature, to ascertain the ancient status of dentistry, has been as laborious and exhaustive as inferred from his review, he must be familiar with; they are monos and mania.

A word, and I am done. I exceedingly regret that Dr.

Allen has felt called upon to write a review, which has placed me in this relation to him. I, too, have known him for many years, and I sincerely respect him for the long continued study and labor he has devoted to perfect an artificial denture that is really beautiful and often valuable. I know him to be a good mechanic, and have no reason to doubt his ability as an operator.

## Selections.

Working in Aluminum.—We find the following valuable article in the *Ironmonger* (English.) The information was obtained from Messrs. Bell & Brothers, of Newcastle-on-Tyne, manufacturers of aluminum, by Professor Deville's process, and will be very useful to many of our readers.

The peculiar properties of this substance having been so little understood, has hitherto hindered its general employment, but now that it is sold in a pure state at as low a rate as 50s. per pound avoirdupois, it is likely to be much more frequently used.

Aluminum is a metal of fine white color, slightly inclining to blue, especially after being well hammered when cold.

Aluminum, like silver, is susceptible of a very fine "matting," which is not affected by exposure to the air, or by any of the impurities usually present in the atmosphere of towns. To obtain this matting, the aluminum objects (being previously washed in benzole or essence of turpentine) must be plunged into a weak solution of caustic soda, thoroughly well washed, and exposed to the action of strong nitric acid. When the desired matting has been obtained, it must be well washed again, and dried in sawdust.

Aluminum is easily polished or burnished. To do this, it is necessary to use a mixture of equal parts of rum and olive oil, as an intermediate substance between it and the polishing stone or powder used. The polishing stone, steeped in this mixture, will then burnish aluminum in the same manner

as gold and silver is burnished, care being taken not to press

too heavily upon the burnishing instrument.

Aluminum can be beaten out, either hot or cold, to the same extent and as perfectly as gold or silver; and it is susceptible of being rolled in much the same way as either of the above metals. Leaves as thin as those used for gilding and silvering can be made of aluminum. Covered ingot molds of iron answer best for receiving aluminum intended to be used in the rolling mill. Aluminum quickly loses its temper, and therefore requires frequent reheating. The temperature of this reheating is a dull red heat, and when the plates be-

Aluminum is easily drawn into wire. For this, the ingots are run into an open mold, so as to form a kind of quadrangular shape of a little less than half-inch section, which is then beaten upon the edges by the hammer very regularly; the operation of drawing out is then commenced on a horizontal bench, by very gradually reducing the diameter of the metal intended to be drawn into wire, and, by frequent reheating, and then the ordinary process of wire-drawing can be proceeded with. When the threads are required extremely fine—as, for example, for the manufacture of lace—the heating becomes a very delicate operation, on account of the fineness of the threads and the fusibility of the metal. The heat of the current of air issuing from the top of the glass chimney of an Argand lamp will suffice for the heating.

The elasticity of aluminum is very much the same as that of silver, and its tenacity also about the same. The moment after it has been melted, aluminum possesses about the hardness of pure silver; when it is hammered out, it almost resembles that of soft iron; it becomes elastic, acquiring at the same time considerable rigidity, and emits the sound of steel when

suffered to fall upon a hard body.

A property which aluminum manifests in a high degree is that of excessive sonorousness. This property has already rendered it of service in the construction of several musical instruments.

Aluminum is much lighter than ordinary metals. Its density is 2.56, a quarter that of silver, and about a third that of iron. By the action of the hammer, the density of aluminum increases sensibly, so as to become equal to 2.67.

Aluminum melts at a higher temperature than zinc, and a lower one than silver; to melt it, an ordinary earthenware

crucible must be employed, without the addition of any sort of flux.

Its low point of fusion, along with its slowness of heating, require that for melting it a less intense heat should be used,

but applied for a longer time than in melting silver.

It is easily melted in an open crucible, which facilitates the removal of the dust and other impurities which appear on the surface of the metal; and for the purpose of stirring the en-

tire mass, a clean iron spatula is used.

Aluminum is easily run into metallic molds; and, still better, for objects of a complicated form, into molds of dry porous sand, formed so as to allow an easy passage for the air expelled by the metal, which is viscous when melted. It ought to contain a greater number of passage holes, and should be so managed as to run it in one long and perfectly cylindrical git. When heated to a red heat, it ought to be poured out with tolerable rapidity. A small portion of the fused metal should be caused to run into the git itself when full, to compensate for the contraction of the substance of the metal at the moment of solidification.

By following all these precautions, castings of the highest degree of fineness may be obtained; but, at the same time, to succeed perfectly, an especial acquaintance with the sub-

ject is needed.

In the production of work where the use of the lathe becomes necessary, any scratching or tearing of the metal by the tool is avoided by covering the surface to which the tool is applied with a varnish composed of stearic acid and essence of turpentine.

When aluminum is soiled by greasy matters, it can be cleaned by benzole; if it be soiled by dust only, india rubber

or very weak soap and water may be used.

The pieces of aluminum intended to be soldered must be prepared in the same manner as objects are treated for soldering with tin, viz., by a "tinning;" but it must be remembered that it is indispensable that this tinning must take place with the solder itself. The pieces to be soldered, thus tinned beforehand, are afterward joined together and exposed to the flame either of a gas blowpipe, or any of the ordinary sources of heat used in such cases. In order to unite the solderings, small tools of aluminum are used. These tools are used as little soldering instruments, and they facilitate at the same

time the fusion of the solder and its adhesion to the previ-

ously prepared aluminum.

The use of tools of copper or brass used when soldering gold and silver, must be strictly avoided, as they would form colored alloys with the aluminum and the solder. It is of the greatest importance never to use any flux to cause the solder to melt, as all those at present known attack aluminum, and prevent the adhesion of the pieces to be soldered. The use of the little tools of aluminum is an art which the workmen must acquire by practice; in fact, at the moment of fusion the solderings must have the friction applied, as they melt suddenly in a complete manner. In soldering aluminum, it is well to have both hands free, and to use only the foot for the blowing apparatus.

Solders of different compositions and degrees of fusibility have been employed in soldering aluminum. The following are those which have been generally used, ranged according

to their order of fusibility:-

1.	2.	3,	4.	5.
Zinc80	85	88	90	94
Copper 8	6	5	4	2
Aluminum12	9	7	6	4

No. 4 is the one usually preferred, particularly for soldering smaller objects.

In order to make the solder, the copper is first melted, the necessary aluminum is added, and stirred by means of an iron spatula, unpolished, as it comes from the blacksmith, adding also a little tallow; the zinc is then added, avoiding too much heat, as this last metal is easily oxydized and is very volatile.

—Scientific American.

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OXYGEN AS AN ANTIDOTE TO ASPHYLIA FROM CHLOROFORM AND ETHER.—M. Ozanam has been experimenting with oxygen as an antidote to the asphyxia produced by anæsthetics, and finds that it acts much more promptly than atmospheric air to restore consciousness, producing its effects in less than half the time required by the latter. So long as there was the least sign of respiration, although the beatings of the heart had become imperceptible, consciousness was easily restored; in one instance, where both had ceased, it was powerless. These experiments confirm those of M. Duroy, made

several years since. As a matter of precaution, then, it seems advisable for surgeons who employ chloroform, when undertaking important operations, to have at hand a quantity of oxygen gas ready for any emergency that may arise. Man resists the influence of chloroform better than the feeble animals which were experimented on; and so long as respiration continues, however slight or infrequent, oxygen will be likely to be efficient as a restorative.—Boston Medical and Surgical Journal.

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WATER: ITS HISTORY, CHARACTERISTICS, HYGIENIC, AND THERAPEUTIC USES .- By Samuel W. Francis, A. M., M. D., of New York.—2. Mythological History.—In the mythology of the ancient classics, we find recorded singular customs, interesting in themselves; indicative of the mind of the times, and illustrative of the beauty of the imagination, when permitted to take wings and fly amid the pleasing illusions and suggestive ideas of a poetic conception. How fascinating are the tales of by-gone days, of deified creations struggling to maintain the mastery over too ambitious, impetuous youths! How sweet and plaintive the expressive pleadings of some captive female, inspiring courage in the breasts of one and all who come to succor in the time of need! And yet, amid their fairy scenes of ambrosial life and beatific experience, we read and accord preëminence to one as head; surpassing all in either intellectual or physical superiority. Venus, the goddess of beauty and all its attributes, was esteemed by the ancients the most exquisite form of rounded symmetry, the perfect ideal of the harmony of shape. And Venus, too pure for earthly origin, sprang from the sea of crystsl charms and spotless white, a proper type of that which was to vanquish even Cupid in his strife for victory.

The siege of Troy forms the greater part of the books of Homer and the Æneid of Virgil. Yet the mighty stronghold, taking ten long years to be subdued, owed much of its surpassing strength to the god of the ocean. Neptune, with the assistance of Apollo, built a wall around the city and its

neighboring precincts.

The all-inspiring fountain in the Ionian mount, whence poets drank, and muses quaffed, the source of mental power, the secret of their greatness, spouted forth from the burdened rock at the touch of proud Pegasus. His foot-print stamped

immortality on those who might imbibe the gently flowing,

spirit-like liquid.

How pleasing it is to peruse the ingenious narrative of the origin of frogs; when the fatal words of Leto: "May you live forever in that pool!" changed her tormentors into frogs, as a proper punishment for thus disturbing the pelucid water, and thereby preventing her from quenching the thirst of her distressed and suffering children.

"Æternum stagno, discit, vivatis in isto; Eveniunt optata Deæ."

\* The Lethean stream removed remembrances of sorrow, troubles, and afflicting cares, when once the unhappy victim of remorse plunged beneath its calm, unruffled waters.

What a sad, yet pleasing tale of sorrow was the melancholy fate of those unfortunates who were condemned to wander near the banks of the river Styx, till their allotted time ex-

pired.

It was not only the harsh sentence of the more feeble of mankind. The punishment, among the gods, for perjury, was to drink of this same river Styx, which instantly dulled their minds, and rendered them senseless for the weary period of

one long year.

And when death claimed the body of a man, be it the remains of a mighty warrior, or the corpse of some forlorn, slain menial, how stern was father Charon for his obolus, as toll across the Styx and Acheron, ere rest could be obtained for those who had yielded up their spirits to the foe of life!

The Naiades, or water nymphs, presided over rivers, brooks and springs; while the Limniades, or lake nymphs, had the special charge of lakes and pools awarded to their safe keeping. The all-powerful and intrepid leader, Achilles, descended from Jupiter, and son of Thetis, herself goddess of the sea, was rendered invulnerable by being immersed, when a child, beneath the river Styx. His heel, the only portion of his body not thus covered by the shielding waters, did not escape in future years the skillful aim of his inveterate enemies.

We frequently read in mythology, of water being dashed

<sup>\* &</sup>quot;Lethe, the river of oblivion, rolls

Her watery labyrinth, whereof who drinks,

Forthwith his former state and being forgets,

Forgets both joy and grief, pleasure and pain."

Paradise Lost, b. vi.

upon some erring god, as a punishment, thereby instantly changing him by a transmigratory power to some inferior being. Acteon, following the promptings of curiosity, and urged on by the passionate feelings of an enamored lover, having surprised Artemis and her nymphs while bathing, was instantly transformed into a stag, water being sprinkled over him when captured. Midas, having experienced the misery of his gifted touch, wearied by the constant wretchedness of so unfortunate a power as he possessed, imploring Bacchus for some remedy that might at once free him from its future evils, was directed simply to wash in the river Pactolus.

What a touching story is that of Narcissus, who, when bereaved of his beloved sister, gazed for hours daily in the limpid stream, that he might but behold his own reflected image, which resembled her sweet face, and thus recall the happiest

associations of purest friendship.

\* Sed opaca fusus in herba Spectat inexpleto mendacem lumine formam. Perque occulos perit ipse suos.

The romantic account of Perseus and his mother cast upon the watery deep in a "crazy bark," rescued by the goddess, and conveyed to the Orgean shore, where he grew up to be one of the most interesting and captivating of fictitious characters, is a tale full of the marvelous, yet restrained within the bounds of possibility. Fascinating and instructive; im-

aginative, yet consistent.

The voyages of Jason and his faithful followers will be long remembered by the student of antiquity, and cherished by the lover of classic description and nautical adventures. It required the union of heaven and earth to produce Oceanos and the giants with fifty heads and one hundred hands. Pandora, the first woman, most fascinating in herself, yet possessing latent in her box all the evils that befall man in this life, was formed by Hephæstos, or Vulcan, out of earth and water. What poetry is there in the metamorphosis of the Heliades, transformed into poplars, their tears for their afflicted brother changing into amber as they fell into the river Eridanos.

When Psyche found herself deserted by the much loved Eros, alone, neglected and unhappy, she sought only for death amid the waters of the classic stream. Tantalus, so often quoted for his great, unceasing sufferings, was punished for

<sup>\*</sup> Ovid, Met. 3.

his offenses by an insatiable thirst. Placed in the midst of the lake, he was permitted to see around him the beauteous. clear and limpid waters; his tormentors allowed him to feel the cool, refreshing touch of the lake. It rose up even to his chin, his lip; and when the mind was fixed on quenching parching thirst and thus alleviating untold agonies, at the last moment, straining every muscle to sip the nectar for a dying man, he failed, and was thus tantalized! It was only by turning a river into the stable of Augeas, that the mighty Hercules suceeded in cleansing the accumulation of the filth of 3,000 oxen for thirty years. There are many exquisite little stories of plaintive purport and beautiful sentiment pervading the narratives of classic deities, springing from streams presiding over fountains; punishing some by condemning them to remain near a gentle rivulet, thereby making use of water in every point of view.

Water, regarded in an historical light, affords much, indeed alike curious to the casual observer and instructive to the scholar in his researches. To the man of thought, a fact needs but to be mentioned, to call forth suggestive memories and philosophical deductions. Thus it is only necessary to mention that the turning point of Cæsar's great career; the conclusive period of his future life; whether he was to remain forever an obscure, unknown commander, in a native town, recognized as valorous only by the few who followed his own steps, was whether he should cross the Rubicon; dare the brave; meet the strong; vanquish conquerors; depose kings; mount to the loftiest eminence, and establish a new era for the historic page. After contending with hidden emotions, that for days had swayed him to and fro, he boldly plunged into the raging stream, and

"Primus in obliquum sonipes opponitur amnem, Excepturus aquas: mollitum cetera rumpit Turba vado faciles iam fracti flumina undas—Cæsar ut adversam, superato gurgite ripam Attigit, Hesperiæ vetitis et constitit arvis: 'Hic, ait. hic pacem temerataque jura relinquo; Te, Fortuna, sequor'——."

When Archimedes was deputed to ascertain the specific gravity of the gold in a crown, to demonstrate its purity, he devised all methods for this purpose, but with ill success, and vain attempts. Nothing came to aid him in his philosophical investigations. At length, while bathing, we are informed,

he noticed the gradual rise of the water on his entering the bath, and thus the happy "Eureka" was indebted to the accommodating element, which taking pity on the great philosopher, rose to elucidate the paradox, and relieve his mind of so perplexing a phenomenon, while he, in turn, for benefits received, formed the screw, that bears his name, likewise to elevate the subtle form, and refresh and give assistance to mankind in all his labors.

Napoleon's greatest feat in prowess, discipline and energy, has been considered to be his having crossed successfully the lofty Alps.

> \* "The palaces of nature, whose vast walls Have pinnacled in clouds their snowy scalps, And throned eternity in icy halls Of cold sublimity, where forms and falls The avalanche—the thunderbolt of snow!"

The surmounting all the difficulties of the journey, and rendering submissive unto man the powerful opposing elements; the maintaining order in the midst of suffering, and when surrounded by a fearful chaos, all have joined to prove the man, the warrior, and the mighty leader of a warlike race of beings. But what was it that rendered what had been accomplished worthy to be classed among the wonders of the times? What was it that secured renown and victory when many had displayed an equal zeal and overcome opposing obstacles, most harrassing and destructive in their deadly effects; most woeful in their sad realities? It was that Bonaparte subdued the snow clad peaks and ice-bound passes:

> Snow to the right of them; Snow to the left of them; Snow all in front of them!

While it rendered more facile the journeyings of the sleigh, and weary traveler, thereby a fit emblem of its peaceful efforts to assist, it stood its ground inch by inch against the onward movements of artillery and soldiers heavy armed, real harbingers of war, and all the necessary evils that ensue.

The lofty ascents and perilous marches of the regiments would have been as nothing, had not snow intervened with frigid, firm, and forcible impediments, and called forth all the discipline of an absolute sway to subdue the murmurs of the wasted army, and overcome the rebellion of subordinates, at

their unexpected hardships.

<sup>\*</sup> Childe Harold's Pilgrimage.—Byron.

Now falling stealthily in heavy flakes, to conceal from view the landmarks fixed, by which to make the tour; and as noiselessly, but with a subtle purpose, covering up the dead who had succumbed to feebler health and winter's powerful revenge. Now blinding each and every one by its heavy drapery, shrouding nature as an emblem for the approaching sacrifice of life. and piling up additional labor for the shovel and poor draught Now, paling earth and enveloping the very clouds in white; a metaphysical expression of contrast with man's blackening deeds! The spotless heavens weeping for the loss of man, in pearly drops of chilling truth; all told but one sad tale of sorrow, woe, and future struggles. It was the vanquishing, or rather the permeating one of the Almighty's elements-water-that stamped Napoleon with renown, more than the controlling armies in the battle field, or overcoming nations in a foreign land.

The torrid zone, with all its withering heat, may be penetrated by the traveler in his paths of industry and deep research. The equator, with its scorching, red-hot line of solar concentration, may be crossed by seamen, and frequented by the pale-faced wanderer, on a visit to the very native, who both lives and experiences pleasure, while inhabiting the hottest region of the globe. All have easy access to the warmest latitudes of both the hemispheres; and nature seems to revel in luxuriant foliage and gaudy birds of many tints, where winter "never comes to rule the varied year,"\* or cast one cold reflection on the happy holiday of flowers, fishes, fruits,

flamingos, or the freedom of a fertile forest.

Agreeably to the wonderful, impartial law of compensation, we find insects that infest, but they may be destroyed. Reptiles may add dangers to the quiet calm of all around, but they may be avoided. The sun may pour down all his rays—parch the ground; shut up the heart of nature by his impetuous zeal; and drive all living creatures from his immediate presence. Still a shelter may be always found beneath the lofty pine, until forgiving night approaches with cool, refreshing shade, to elevate the soul and soothe the heated frame.

But when man, with his puny strength, seeks to penetrate the North and lay bare the hidden treasures of the polar region, what prevents his movements onward, and, with facile

<sup>\*</sup> Thomson's Seasons.

stride, plants obstacles at every step? What, says Excelsior, can not be obtained by such means in the frigid zone? What, at his approach, lashes his bark with angry waves and mounts the prow of the little craft flowing with a maddened fury to the very stern, washing all before it to destruction? And now that man, still bent on moving forward, keeps his course, the mighty element assumes more hardened features, and, towering above his little craft, threatens instant ruin to all on board.

Icebergs, the lofty sentinels of the northern sea, moving to and fro with an irresistible power, keep off all those who are not "men of granite" from advancing farther toward the hidden mysteries of the frozen region! And when success attends man in his windings through the sinuosities of the chilly inlet, and his steps approach still nearer north, Nature comes again to aid in the resistance. The "hummochs" mount yet higher on the floes, exulting that a victim is to be encased, and all becomes as one; the masts and shrouds are coated with the sleet; the snow descends with that mysterious power, and naught remains to meet the view save the palefaced, chilly monument of a former visitor—its own recorder.

Man may endure the scorching heat of the equator. The north pole, however, presents an opposition that is unequaled in its strength and durability. It is the agent, ice! Like man, the northern region places a barrier of cold reserve to all intruders, and shuts out those that would, from idle curiosity, penetrate beyond the calm exterior. But Nature, true in her characteristics to human nature—often her inferior beneath that cold, impassive surface, possesses a warm and genial heart. Thus the Polar Sea, shut out from the mixed knowledge of a busy world, pulsates with warm emotions, sustaining many a weary inhabitant of the hidden waters; and, leaving the shores that encircle it with jealous seclusion, it sends forth toward the beaming light of day many a laughing ripple. As in the most northern ice-bound land we find refreshing springs of water, so in every character, however much degraded by a sinful life and fallen nature, we will find some latent spark, the remnant of a ray from the Sun of righteousness—some few pearly drops of priceless value from the Fountain of living waters!

It was the surmounting countless difficulties, and relying upon the merits of the compass, while entrusted to the ocean's wayward movements, that a Vasco de Gama discovered a path for commerce, which led to many followers ere long. It was the battling with the elements and living in the face of dangers, and braving the deep, when all but water had left Columbus to himself and a disaffected crew, that has named this favored country after so illustrious a man.

It was the great endurance of surpassing hardships when,

amid the lonely glaciers,

"O, Winter, ruler of the imperial year;
Thy scatter'd hair with sleet-like ashes fill'd;
Thy breath congeal'd upon thy lips; thy cheeks
Fringed with a beard made white with other snows
Than those of age; thy forehead wrapp'd in clouds,"\*

that renders the name of Kane a synonym for energy and perseverance, the two great principles that urge man on to action of a noble character. All the powerful barriers of nature could not protect the English isle from Gallic tyranny; all the forces from the British kingdom could not keep off the approach of eager Frenchmen, rendered fiercer by the memory of Waterloo; but the gentle flowing of a mediating sea, intervening with a hidden depth of purpose, with persuasive eloquence, separates the usurper from his longed-for victim, and renders free a civilized community, destined to enlighten nations by its liberal form of government, and improve the morals of many a political body by the soundness of its ethics.

Venice, in former days annually wedded to the sea, to whom it owed so much for glory, riches, and surpassing rivalry, by her commerce took the lead, and for many a year was known to all surrounding powers under the amiable title of "Facile Princeps." Her graceful gondolas-those exquisite abodes of swan-like symmetry and easy gliding—and her islet residences leading down to the very waters of the Adriatic, struck man's imagination with a suggestive beauty that might well have inspired a Titian with sublimer colors, or called forth poetry from the Improvisatore. And even in the modern light of civilized humanity, her scenes recall so vividly the past, her palaces stand forth so exquisitely molded, as the fitting representatives of what has happened ages since, that we are told by one of thought and feeling that †" Venice is the only city that can yield the magical delights of solitude."

<sup>\*</sup> Cowper's Task. Book 4th, line 120. † B. D'Israelli.

"Oh! agony—that centuries should reap No mellower harvest! Thirteen hundred years Of wealth and glory turned to dust and tears; And every monument the stranger meets Church, palace, pillar, as a mourner greets."\*

What period in the history of the colonial struggles in the American Revolution is more interesting to the student—more significant of the turning point of fate—more replete with facts of moment and proofs of firmness, fortitude and faith—than the great era in the life of Washington, when he crossed the Delaware amid the dangers of a wintry season, surrounded by difficulties and encompassed by prolonged privations? Speaking of this event in the following terms, Irving, in his classical biography, writes with eloquent enthusiasm, and states that "he himself crossed with the rearguard, on Sunday morning, and took up his quarters about a mile from the river, causing the boats to be destroyed and troops to be posted opposite the fords." He was conscious, however, as he said, "that, with his small force, he could make

no great opposition should the enemy bring boats."+

Xerxes, as a great commander, receives the highest commendation of historians for his bright success, his happy power of subduing envy, and enforcing strict obedience. In the full list of his mighty exploits and most daring expeditions, we can find none recorded comparable with the vast. herculean feat of bridging over the Hellespont, that he might move on in regal magnificence as over a royal road, uninterrupted by an intervening water, thereby uniting both the Continents under his proud dominion. This wonderful work is the most durable record of the boldest of his schemes; the most successful of his adventurous undertakings. While his crossing the Hellespont, sacred to the Greeks, reflects credit. and indicates his prowess as a leader, his causing the sea to be lashed for contending against the power of his god-like attributes, points out the weakness of human nature in prosperity; the folly of an unconquered chief.

The story of Canute and his noble followers before the mighty inrolling of the waves that would not cease their movements even in the presence of a royal ruler, is replete with suggestive morals, and significant of the hollow boastings of the parasite. Though men, with souls, left to their own

choice, yielded up a ready and most cheerful homage to their king, and hastened to obey the slightest signal of command, the gentle ripple of nature's waters still kept on her course in spite of all the dictates of a man, though he were the head of all who breathed around him in an atmosphere of shallow worship.—Medical and Surgical Reportor.

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DISEASES OF THE MOUTH.—Osseous Tumors.—By James E. Garretson, M. D., of Philadelphia.—Tumors of the maxillary bones, like tumors of other bones, and like tumors of the soft parts, are benign and malignant, analogous and heterologous.

The maxillary bones, because of this great vascularity and exposure to sources of irritation, are, perhaps, more disposed to enter on pathological conditions, than any other of the

ossa coporea.

Malignant tumors of these bones are only local exhibitions of a preëxisting cachexia—diathesis determines diseased action, the result of local injury.

The principal source of irritation to the maxillary bones

is found in diseased teeth.

Tumors of these bones, which may, with most assurance, be looked upon as benign, are the Encysted, the Common

Inflammatory, and the Exostosis.

Those, the character of which may be esteemed doubtful, if not always malignant, are: the Osteosarcoma (fibro plastic), Osteo-cephaloma, Osteo-carcinoma, Osteo-melanosis, and Osteo-cancer.

Distinctive diagnostic signs, marking differences between benign and malignant growths, are only appreciable, if indeed appreciable at all, to the very experienced.

Certain general features, however, associate with the two

lesions, which may be studied with much advantage.

Benign tumors are mostly referable to a cause, and are apt

to be in proportion to that cause.

They are circumscribed by healthy structure. Lymph in a greater or lesser state of organization infiltrates the neighboring tissue, marking the line of demarkation.

They do not seem to have other than the most innocent relation with adjoining organs, so far as disturbance to func-

tion is concerned.

The removal of the cause is apt to remove the effect.

In structure, benign tumors are homologous.

They represent the structure of the body to which they are allied. They do not entirely defy constitutional treatment, but are more or less amenable to it.

They are scarcely any other than a single formative capa-

city.

Malignant tumors are, on the contrary, not at all in proportion to a cause which may be considered the provocative.

They are not healthily circumscribed, but their elementary structure is most apt to be found "infiltrated, inserted, or diffused, in the interspaces and cavities of the tissues in which

they lie."

They are associated with a cachexia, which is not unfrequently more marked than the local disorder. Thus, the vis vitæ is not unfrequently so prostrated, that the patient dies outright from the systemic depression. A patient afflicted with cancer has a color, which has not inaptly been likened to a cold buckwheat cake. A cancerous tumor will be found to have affected, markedly, all glands, the vessels running into which have association with it.

The removal of any supposed cause, or the removal of a

cancerous tumor itself, will not effect a cure.

In structure, these growths are heterologous; for even if it be contended that, microscopically, their minute histology implies only arrestation of normal development; yet, I think, comparison can not be carried to the varying character of the primary granules, then, (if my pathology is not too old,) are not common to any growth, except the malignant.

True cancer seems not amenable to any constitutional treatment; there are the best of reasons for judging, that all reports of cases cured have origin in mistaken diagnosis.

Malignant tumors have—through the cachexia—a varying formative capacity, they multiply and propagate themselves; if one is removed, a second comes to take its place; either appearing in the site of removal, or in some other locality.

Benign Osteoids—Cystic Tumor of Paget.—From Paget, through most surgical writers, mention is made of a slow growing tumor of the jaw, a distinctive pathognomic feature of which is a parchment like crackle given on pressure. These tumors are described as cystic, and are the result of a pouching out, and consequent attenuation of the outer lamina of the bone.

I suppose I have treated, altogether, six or eight of these cases; but I have to offer the singular experience of not having met one of these cysts, which I could make crackle under pressure, or any other manipulation. Depending on this so insisted upon sign, I will recall the trouble and annoyance, and I may add the mortification my first case gave me.

These tumors, as I know them, are slow of growth, being, perhaps, a year in gaining the size of a common hickory nut.\* They are, to the touch, as unyielding as the exostoses. The gum covering them is as healthy and natural looking as that in any part of the mouth. Sections of them not unfrequently exhibit septi of bone, which have supported the vault of the tumor, and which, of course, when existing, would prevent

any yielding.

Case.—Mrs. C——, aged about twenty-one, applied to me, some two years back, for treatment of a tumor occupying the canine fossa of the left superior maxillary bone. The growth had been eighteen months in progress; was about the size of a half walnut, perfectly solid to the touch, painless, and entirely healthy looking; the greatest disquietude of the patient being mental, her mother having died from scirrhus of the rectum.

Associated by marriage, and otherwise, with the family of this lady, are some ten or twelve physicians; each of whom had, in turn, examined the tumor without coming to any satisfactory conclusion concerning it. I am not able now to recall, exactly, how this patient happened to come under my care, but, at any rate, having previously met with two or three precisely similar cases, I felt justified in pronouncing the disease a common cystic tumor; the solidity of which was, not unlikely, attributable to the existence of the septi alluded to.

A choice of operations was suggested to this lady: either, that the cyst should be cut from the body of the bone, or that a crucial incision should be made in it, and the cavity being stuffed with medicated lint, thus obliterated.

Two or three weeks being spent in consultation with friends, the patient was finally submitted to my care, the latter operation being the one decided on.

<sup>\*</sup> The reader will, perhaps, recall a similar cystic tumor, of rapid growth which I described in connection with alveolar abscess. A bony tumor, which sometimes gains the size of a hickory nut in a very few days. (This tumor I believe I am the first to describe.)

The crucial incisions were made; several delicate septi of bone, which the cuts discovered, were broken up, the cyst was injected for the first three days with weak stimulating liquors. No inflammation developing, tufts of cotton were saturated with tinct. of iodine, and the cyst stuffed. In one week the site of the cyst was occupied by healthy granulations; in three weeks the patient was entirely cured, and left

the city for her home in an adjoining State.

Case.—About nine months back, a Germon woman applied to me with a cystic tumor, similar to the above; it was certainly as unyielding as solid bone. This tumor I treated by making a crucial incision through the soft parts alone; the flaps were dissected off, and the cyst being exposed, was cut away with a chisel-shaped instrument. The flaps fell naturally into the cavity, and were left, even without a stitch, to take care of themselves. The cure was complete in about a week.

The point I would impress, concerning the diagnosis of these tumors is, that the pathognomic crackling, so invariably set down in the books, is not always present; for, as I have remarked, having treated some half-dozen cases, I have not yet felt, or heard it, consequently I have the right, I think,

to affirm that it is not a reliable sign.

There is, however, a tumor of the soft parts of the jawcystic, but not osseous—which is not to be confounded with the class just described. Both tumors look, occasionally, precisely alike, but the latter yields under pressure, as any tumor of a semi soft part would yield. M. Paget alludes to such a disease in his lectures on Surgical Pathology, pages 342-3. "A woman," he says, "thirty-eight years old, was under my care in 1849, in whom, at first sight, I could not but suppose something was distending the antrum, so closely was deformity of the face due to such disease imitated. But the swelling was soft and elastic, and projected the thin mucous membrane of the gum of the upper jaw, like a half empty sac. I cut into this sac, and let out nearly an ounce of turbid, brownish liquid, sparkling with crystals of cholestearine: The posterior wall of the cyst rested in a deep excavation on the surface of the alveolar border of the upper jaw; an adaptation of shape attained, I suppose, as the result of the long continued pressure of the cyst, which had existed six years."

M. Paget also makes mention of a young man under his care with a similar tumor, which, he says, was the result of

an injury to the gum or alveolar border six months previously. In neither of these cases, says he, could I find any disease of the maxillary bone.\* Their origin, so far as my experience goes, is in a diseased tooth fang. I do not know what so close an observer as M. Paget means, when he says he could find no disease of the bone. There ought to be at best one little shot-like hole somewhere about the surrounding osseous wall; at any rate, such is the history, as I have met with them.

A succeeding case, which M. Paget mentions, seems to prove that tumors are the same as I refer to. "A lady," he says, "had a small cyst of this kind which had existed twenty-seven years, filling and discharging almost daily. It had its origin in a blow, by which the two median incisors were loosened." This history is that of this particular history of

chronic alveolar abscess in every particular.

Last winter, a physician, from Kentucky, applied to me for treatment of a tumor of the lower jaw, which had existed for over two years; it had the feel of a fibroid body. This gentleman, with the imaginative qualities common to the practitioner, when he himself becomes the patient, had succeeded in satisfying himself of the cancerous character of the tumor. An incision through the growth demonstrated it to be a cold alveolar abscess—in a single week he was cured, for the treatment required was, simply keeping patulous the incision, and using a few stimulating injections.

In the Western Medical Journal, Vol. X., page 185 to 228, I find a learned article from the pen of Prof. Gross, on "Excision of the Maxillary Bone," in which he makes the

following allusion to the osteoid cysts.

"The sero-cystic tumor of the upper jaw is uncommon, and, unfortunately, devoid of malignancy. Its usual site is the alveolar process, where it has been known to attain the volume of a hen's egg, and even of a large orange. It is composed of a thin, semi-transparent, or slightly opaque bag, occupied by a colorless, or sanguineous fluid, or by a glazy, mucilaginous substance. Sometimes, though rarely, there are two such cysts, either closely connected together, or separated by a kind of osseous septum. The bone around the tamor is expanded into a thin, elastic crackling, parchment-

<sup>\*</sup> These cysts I have several times met. They are, I think I may affirm cold abscesses.

like shell, and is easily penetrated by a sharp instrument, the puncture giving vent to the characteristic contents of the cyst. This, Professor G. thinks, is the best diagnostic sign of the morbid growth. The general health, he remarks, "remains unaffected in the disease, which is always tardy in its progress, and manifests no disposition to extend among the adjacent structures. Where any doubt exists as to the real nature of the case, he advises a resort to the exploring needle, which, he says, will usually at once dispel it.

Prof. G. thinks it is not often this tumor calls for removal of the affected bone; he gives it as his experience, that in general it will suffice to puncture it occasionally with a small trocar, to evacuate its contents, the escape of which, he says, he has found to be often followed by the rapid contraction and final obliteration of the sac. Where there is a strong tendency to reaccumulation, he recommends that a large opening should be made, and tincture of iodine thrown in, to promote the object in view.

The cystic tumor of Paget is, I presume, the same disease of the jaw to which the name spina ventosa was originally applied—spina to express pain resembling the pricking of thorns, and ventosa, to indicate that the tumor was filled with wind. The term is not yet obsolete, but like epulia, is employed so freely that no one now knows what it means.

Recapitulatory.—The cystic tumor of Paget is an osseous cyst of the jaw, which forms just beneath the outer plate of the alveolar, and has its cyst, as a result of the expansion and attenuation of the external lamina.

It is seen as a bulb on the alveolar face, is commonly met with about the size of a half hickory nut, the gum which covers it is perfectly natural in appearance. It may yield to the touch, or it may not.

The most satisfactory, and withal perfectly safe means of diagnosis, is to pass a keen scalpel or lancet into the growth—if it is the tumor we describe, the knife will give to the touch the sense of having passed through a bony wall into a cyst.

Such tumors are treated in two ways: Either by dissecting off from the wall the gum, and chiseling away the cyst; or by opening into the cavity by free incisions, and stuffing with lint—this latter is much the easier operation, indeed, it demands no special operative skill, only requiring that the extent and character of the inflammation, which it is the object to excite, should be watched.

Exostosis and Inflammatory Tumors.—These two classes of growths have such parallelisms that their description runs

naturally into one another.

The term exostosis, as the reader will recall, is made out of the expressive roots ex, out of, and osteon, a bone, "an osseous tumor which forms at the surface of bones, or in their cavities." The first is called exostosis—the latter enostosis. The following varieties have been enumerated: Eburnee exostosis; ivory exostosis—that which is ivory-like. Lamina exostosis—that which is made up of distinct fibres, or layers. Spongy exostosis—that which is like the spongy tissue of bone.

Inflammatory tumors of bone are those having a marked

origin, as the syphilitic, the scorbutic, the tubercular.

An exostosis proper is strictly benign; it is a disease of exclusively local signification. It is recognizable by its extreme slowness of growth; the entire absence of pain—except where it has some peculiar relation—its freedom from surrounding disease. It is of bony hardness, both to the touch and exploring needle. It does not tend to ulceration, and does not, except mechanically, affect the parts even most directly associated without it.

True exostosis has its origin in local irritation—perhaps

always.

It is true that reference is made by authors to an ossific diathesis, but as truly remarked by Miller, "A skeleton so susceptible is prone rather to inflammation and its results:—

abscess, ulcers, caries, and necrosis."

I recall a case to which my attention was once directed by my warm and lamented friend, the late Dr. Townsend, dentist. One of the most generous and noble men I have ever known—may his memory long remain green—where an exostosis was evidently the result of a gold filling, which several years before had been inserted into the cavity of a tooth, and which slightly protruded from its neck.

Reflected periodontal inflammation is a common cause of maxillary exostosis, while it must be admitted that cases occur where no primary source of offense is discoverable.

About ten years ago I operated on a medical gentleman for an exostosis situated just below the orifice of the infra orbitol foramen. He could assign no cause for its occurrence.

Exostosis of the fangs of teeth—exostosis dentium—is quite a common disease, and which goes farther than any

argument with which I am acquainted to prove an irritative origin of the lesion.

The forms of exostosis occurring here, are the osteo-dentinal and ocemental, and is, of course, peculiar to the region.

While I have seen some two or three cases where the crowns of teeth were enlarged, as if from a species of exostosis, a hypertrophy, yet these were so anomalous, that I may describe the growth as associated exclusively with the fangs, and even here it is mostly confined to the apex, growing as a bulb about the end of the root. Occasionally, however, the whole root is involved, the deposit being quite regularly diffused about it, or the mass may be found as an irregular tubercle on the side of the root.

The diagnosis of exostosis of teeth roots is not always easy. The most frequent pathognomic feature, however, is a sense of continued uneasiness about the parts, not generally amounting to pain, but serving as a constant reminder of the existence of the tooth. The tooth itself may, or may not be carious. Pressure, or the stroke of an instrument does not, in ordinary cases, either increase or diminish the soreness. The sense of fullness about the parts is particularly observed where the absorption of the alveolar is not proportionably active with the oxostosis. In these latter cases a different set of features are provoked.

The pressure is sometimes such as to yield the extremest symptoms of tic douloureux, and patients have been treated weeks for such nervous conditions, where the cause was in this direction. Dr. Harris says the diagnosis (in a case which he describes) was gotten by striking the tooth in a certain direction, a sharp pain shot through the jaw, exactly resem-

bling the former attacks.

One of the most remarkable cases of dental exostosis on record is related by Mr. Fox. The subject was a young lady, who, at the time she sought the professional advice and aid of Mr. Fox, had suffered so severely, and so long, that the palpebræ of one eye had been closed for nearly two months, and the secretion of saliva had for some time been so copious that it flowed from her mouth whenever it was opened. She had tried every remedy which had been recommended by the ablest professional advisers, without realizing any permanent benefit, and she was only relieved from her suffering by the extraction of every one of her teeth.

Mr. S., of Baltimore, having suffered some time from ex-

treme pain in the left superior bicuspis, applied to a dentist in 1843 for the purpose of having this tooth removed. In the operation the root was fractured about three sixteenths of an inch from its extremity, and the upper part left in the socket, and in consequence of which, he did not realize the relief he had hoped to derive from the operation. The pain continued, and at the expiration of twelve months the gum over the upper part of the alveolar became very much swollen, puffing out the lip to the size of half a hen's egg. The tumor fter a few days was opened, and a large quantity of dark colored, purulent, and very fetid matter was discharged, which, for a short time, afforded him very considerable relief. The tumor, however, soon reappeared, and was removed some four or five times, by opening it, and discharging the matter in about that number of months.

In the fall of 1845 he called on Dr. Harris, the eminent dental author, for the purpose of obtaining his advice. The gum was swollen, and the lip and cheek protruded as above described. The tumor was again opened, and about three tablespoonfuls of black matter, resembling tar, escaped. Upon further examination the outer wall of the antrum, immediately over the alveolus of the bicuspids which had been fractured, was found destroyed, leaving an opening large enough to admit the end of the forefinger. Believing that the end of the root, which had been left in the socket, was the cause of the disturbance. Dr. Harris urged its immediate removel, and to accomplish this, it became necessary to cut away the outer wall of the alveolus. The root of the tooth, on its removal, was found to be enlarged to the size of a large pea. secretion of purulent matter soon ceased, and in a few weeks the patient was completely restored.

The following case is from Mr. Bell:

Mr. -— had for some months suffered severe and frequent paroxysms of pain on the left side of the face, apparently commencing in the second inferior bicuspis, and darting through the lower jaw to the ear, and upward to the temple.\*

<sup>\*</sup>Neuralgic pains in the fifth pair are felt over the forehead, in the lachryma gland, in the eye, the nostril, at the ear, on the neck, in the maxillary bones, about the tip of the tongue, etc. This is explainable anatomically. The nerve rises from the pons varoli, centers at a great ganglia by the ear, then divides into three principal branches. The opthalmic, which passes through the foramen lacerum, and is distributed to the forehead, and by subdivision to the neighboring parts. The superior maxillary branch passing from the cavity of the skull through the foramen rotun-

The pain resembled tic douloureux in the nature of its attacks. but was evidently produced by a local rather than a constitutional cause, from the paroxysms occurring without the least periodical regularity, and from their being excited by the application of heat to the teeth of that part. On the most careful examination, says Mr. Bell, I could not discover the least appearance of caries in any of the teeth, and I therefore ordered leeches to be applied to the gum, and aperient medicines, and abstinence from all stimulating food. This plan was productive of only temporary and partial relief, and in about two days the pain was as severe as ever. Finding that a smart blow on the second bicuspid produced a more painful sensation than on any of the teeth, I determined on extracting it, and found the extremity enlarged by a deposition of bone, giving to it a slightly bulbous shape, but not larger than the tip of a small quill. The removal of the tooth was followed by immediate and entire relief.

Mr. Bell adds, that the newly-formed bone was yellow and

more transparent than the original structure.

Many interesting specimens of exostosed teeth roots may be seen in the Museum of the Philadelphia College of Dentistry.—Medical and Surgical Reporter.



REMARKS ON DENTISTRY IN THE ARMY.—By Wm. B. Roberts, M. D., of New York.—The sad misfortunes of the Crimean war, owing to imperfect attention to the sanitary condition of the British army, opened the eyes of the whole civilized world to the importance of a proper sense of duty in this connection. It is not surprising, therefore, that humane and far-seeing men in this country should have taken an early opportunity in the present campaign, to press upon the government the almost incalculable importance of great care in the superintendence of the sanitary department of the army. Thus every effort is being made to attach to each regiment all the requisite force with all the necessary equipments to perform the work given to them in an efficient and satisfac-

dum, distributed to the parts which names it. The inferior maxillary, emerging through the oval foramen, subdividing into the lingual branch, which goes to the tongue, and into a motor, which supplies the muscles of mastication. The inferior maxillary nerve supplies the lower jaw and teeth. Neuralgic trismus is explainable by the compound nature of the nerve.

tory manner. There is probably very little to be said in the way of advice to such gentlemen as are thoroughly imbued with the importance of the subject, and as thoroughly acquainted with all the means and appliances necessary to it: but there is one point which has apparently escaped the attention of persons in authority, on which we wish to say a few words. During the last twenty years, and owing principally to the efforts of our own countrymen, Dentistry has become elevated from a mere branch to a distinct science. Colleges have been founded, societies formed, conventions held, professorships endowed, and all to give the greatest insight possible into the structure, physiology und pathology of the human teeth. It has been found, as men progressed in the study of these organs, that their disease spread its ramifications through the whole animal economy; all the functions of the body have been affected and indeed suspended by the existence of a foreign and improper condition in the teeth; the whole sanitary condition has been altered, and the most serious complications of disease have attended the existence of diseased teeth.

Thus dentistry has been taken out of the hands of the surgeons and doctors, and has formed a separate profession of enlightened, eucated, and scientific men, understanding as a necessity not only their own immediate calling, but also no small share of surgery and pathological anatomy. years since the question was raised in England as to the propriety of attaching dentists to the British army and navy; a great deal had been said upon the subject, and it was well known that the teeth of the soldiers and sailors were in a deplorable condition; but after a temporary prospect of success the subject was dropped. Meanwhile, in the French army, with that sense of decency that always characterizes the French nation, means had been taken to extend a proper attention to the wants of the body, and to the teeth; the men were supplied with brushes, and compelled to keep their teeth cleansed; and thus the matter stands in Europe at the present time. We have referred to this subject at the present time because it seems to us that it is proper that here, where dentistry has progressed more than in any other country, it is right that the first steps should be taken to still further advance it. And we desire especially to show the value that it might possess as a sanitary instrument, if proper efforts were made to invest it with the importance it deserves. It is

almost needless to refer to the necessity for having good teeth in our army and navy; first, for mastication; and second, but most important, for their effect upon the general health; and upon this last subject we desire to give some information.

Careful mastication is essential to perfect digestion, and this latter, more especially in the active life of the soldier or

sailor, is a primal necessity for healthy existence.

Very few persons are aware of the derangements which may be produced by diseased teeth, although the period of dentition in children is generally considered as one of the most critical in life. It is, indeed, estimated by some writers that one-tenth of all the deaths in the world occurs during the period of the first dentition. The animal frame is in infancy so delicate, that the least local irritation produces a sudden and universal sympathy throughout the whole body. Fever is a very frequent accompaniment of teething; also an affection of the skin, resembling measles; pustules sometimes appear, not unlike a mild form of small-pox; diseases of the scalp; diarrhea; convulsions; diseases of the lungs; and, in fact, symptoms of nearly every form of disease may be met with during the period, and resulting from dentition. know that this terrible catalogue of evils is attendant upon the growth of the teeth during infancy, is it not rational to suppose that a healthy condition of these organs is essential to adults, when we consider the close connection existing between the teeth, alveolar process, the parotid submaxillary and sublingual giand, on the one hand, and the mucous membrane of the mouth, which is continuous with that which lines the pharynx, œsophagus, stomach, and intestines, on the other?

It is well known to the dental practitioner, the physician and surgeon, that if a tooth becomes diseased, all these organs will to a certain extent sympathize with it, independent of the agonizing and excruciating pain caused by the exposure of the nerve. Cases have been given where inflammation of the mucous membrane has extended so far as to produce consumption; while dyspepsia with all its attendant horrors may be, and often is caused by improper and insufficient mastication, which must necessarily result from the possession of poor and imperfect teeth. Neuralgia and tic-douloureux, probably the most fearful pains which the human race ever suffers, often proceed in the first instance from exposed nerves; and other acute and chronic inflammatory diseases

frequently spring from carious teeth and diseased gums, ruining health, and disabling their victims from performing even the most simple duties of life; and in the case of the soldier who is exposed night and day to every variety of inclement weather, and every quality of fare, the chances of such diseases establishing themselves through the means of diseased

teeth are greatly multiplied.

It is well known to the dental profession that all the diseases common to teeth can not only be cured, but may be prevented by proper and timely treatment. After having thus enumerated the evils appertaining to a defective condition of the teeth, a condition which experience has found to exist among the army to an extraordinary extent, and having shown the importance of such diseased condition being avoided and changed to aid in establishing a proper sanitary condition among these men who risk their lives for their country's service, and have neither time, means, nor opportunity for themselves discharging their duty in this respect; we desire to urge upon the proper authorities, that a corps of dentists, or dental staff, should be attached to the United States army, similarly organized with the surgical department, who would act in connection with, and as an efficient aid to, that department, besides performing their own duties in a proper manner. Holding this to be a great sanitary measure, as well as an economical and humane movement in behalf of those affected by it, we would especially offer these suggestions to our "Sanitary Commission," believing that in the scope of their noble field of labor there could not be performed a more important act, than the procuring of the passage of a bill through Congress at the approaching session, which should incorporate into the army an efficient DENTAL staff, strengthened with all the powers necessary to enable it to become most serviceable to the cause of health.—American Medical Times.

## Editorial.

### AMERICAN DENTAL CONVENTION.

THE REGISTER was not represented at the late meeting of the Convention at New Haven. For this we are sorry; but, as we have fallen on peculiar times, we hope our readers will not regard the fact of our absence as an evidence of a lack of interest. We have no full or extended report of the proceedings; but if any of our brethren have, we will, with their consent, of course, borrow, and lay before our readers, the whole report, or at least as much of it as may prove of special interest.

We are glad to have evidence that our friends have not all forgotten us. Prof. Buckingham, and somebody else, sent us some numbers of the "Journal and Courier," and of the "Herald and Journal," containing reports of the proceedings of the Convention. From these we learn that but sixty-eight dentists were present—a small number, but as many as could be expected under the circumstances. Dr. John Allen was elected President, a position fairly and honorably earned by his earnestness in and devotion to the advancement and improvement of mechanical dentistry. Dr. J. D. White was chosen Vice-President, a position he merited by breaking over his former habits (of staying away) and coming up to the help of the Convention in the hour of its weakness and trial. We felt relieved when we found friend "J. D." among the "members present,"-felt better on finding him Vice-President,"-better still. that he pitched right into the discussions with his usual ability, and with all the zeal incident to new conversion. We hope he will, having taken the first step, carry out the colored Calvinist's idea of the "perseverance of the saints"-" take hold-hold onand NEVER LET GO." Dr. F. Searle was elected Recording Secretary; Dr. B. T. Whitney, Corresponding Secretary; and Dr. J. T. Metcalf, Treasurer, -good men and true, all-no round men put into square holes.

A letter, in reference to a proposed "World's Dental Convention," was received from the "College of Dentists," England; and an answer was returned by a committee, specially appointed for

the purpose, consisting of Drs. T. L. Buckingham, J. J. Wetherbee, and A. McIlroy.

The general divisions of the "Order of Business," as adopted by the Convention, are "Etiquette, Surgical Dentistry, Mechanical Dentistry, and Unfinished and Miscellaneous Business." Various subdivisions were proposed under each of the first three, which it is not our present purpose to notice. "When shall we insert pivot teeth?" placed under the mechanical department, appears to us more surgical than otherwise, even though the invention of the teeth may be mechanical.

Dr. Allen read a paper on the "Causes which retard the progress of Dentistry," and Prof. W. H. Atkinson read two,—the first entitled, "What lack I yet?" and the second, "Does being imply the right to live?" Without seeing the papers, we venture to state, in reference to the first question, that our friend A. lacks much less than many others.

"Your wants, dear sir, will seem but small,
When they're compared with mine;
My single want outweighs them all—
I want a soul like thine."

The second question is beyond our capacity, hence, we will not risk an answer, but refer the reader to the paper. Dr. Burras also read a paper on "Mastication and the Articulation of Artificial Dentures." All of these papers we hope to see.

A committee was appointed with reference to the appointment of dentists in the army and navy of the United States. An order of exercises for the next meeting was adopted, which we will lay before our readers in due time. A committee, specially appointed, reported a constitution, which we infer was adopted. Trenton Falls, New York, was selected as the place for the next meeting. Votes of thanks were abundantly given for specific favors as abundantly received. And, after it got ready, on the fourth day of its session, the Convention adjourned to meet again, the second Tuesday of August, 1862.

We infer that the meeting was harmonious, and every way pleasant. We hope to give the proceedings in full, hereafter; and we may take occasion to notice some of the positions assumed.

W.

#### DENTAL HOSPITALS.

WE learn by the London Dental Review, that our professional brethren of London and its vicinity are making a move for the establishment of a National Dental Hospital.

The object and scope of the hospital is declared to be not merely metropolitan, but national; one for the benefit of the whole kingdom, to be for the relief of those poor persons who can not afford to pay a dentist's fee, when suffering from dental diseases. It is expected to receive patients and subscriptions from all parts of the country.

The following resolution was offered, discussed and adopted, by a meeting of the dentists having the matter in charge, viz: "That an institution to be called the NATIONAL DENTAL HOSPITAL be now established. The hospital to provide gratuitous and efficient aid to the poor in diseases of the teeth, and to include means for instruction to students, preparing for dental practice, as members of the College of Dentists."

This movement is based upon a conviction of the fact, that the profession has made such attainments as will make it eminently valuable to all classes of society; indeed so much so that none should be without its aid. Society, as a whole, has a right to domand such aid. Such institutions, in addition to being instrumental in the alleviation of human suffering, will be of incalculable advantage for the further development of professional attainments, and especially to those who are seeking knowledge.

In the establishment of dental hospitals our English brethren are in advance of us. It is true, we first established Dental Colleges; but they, too, in London have established an institution of this character; and one, we should think, well calculated to accomplish

the object of its institution.

They did not stop with this, but immediately set about taking the next very natural step, viz: the establishment of dental hospitals. We have made but a feeble effort in this direction, in the establishment of dental infirmaries in connection with our colleges. Only one idea, however, is prominent in these, viz: that of giving instruction to the students, leaving out of view almost entirely the highest good of the patients. They were first instituted avowedly for furnishing means of instruction to students; they are kept open only during the college session.

We think it very desirable that something more than this shoul be done here, as well as in London. It has been suggested that dental department in the regular hospitals might accomplish desired objects. While it is true that something might be accomplished.

plished in this way, it is very evident that the greatest good could not thus be accomplished. In the ordinary hospitals, there are very few patients who are in condition for dental treatment. It might be desirable to have a dentist connected with every general hospital; but then we do not conceive that the aims and objects of a dental hospital could be efficiently carried out in such institutions.

Dental hospitals should be established upon such a basis and plan as would most fully meet the wants of those who are unable to pay the ordinary fees for dental operations; and at the same time afford facilities for improvement to those seeking attainments in the practical and scientific departments of the profession.

We may refer to this subject again.

T.

## EXTRACTION.

In the August number of the Cosmos, Dr. J. D. White, in practical hints upon extraction of teeth, refers to cases, the crowns of which have been broken off, and firm roots are remaining. He suggests that when such roots would give great pain in their extraction, it is better to let them remain for a time, and apply arsenical paste, for the purpose of producing "absorption and sloughing, and loosening the root by inflaming and thickening the membranes, and detach the root from its close and firm adaptation to the walls of the socket."

Now, we confess that we are not yet quite prepared to endorse this practice. We think it objectionable in two or three respects, as a general thing. In the first place, there are many persons who have very marked susceptibilities to the influence of arsenic; this idiosyncrasy can not be determined except by experiment; in such cases, its application in the manner implied would be liable to result in serious consequences, such as extreme soreness of the parts, and hence, perhaps, far more pain would be endured in the aggregate than would result from a prompt and skillful extraction extensive sloughing of the soft parts, and sometimes death and exfoliation of the alveolus, both of which are exceedingly unpleasant and disagreeable; and besides, it may extend to the surroundings of other teeth, and in this way be productive of great injury. We have occasionally seen cases where just such results have occurred from the application of a very small portion of arsenic to a tooth. If arsenical paste is used in the manner referred to by Dr. W., it should be with very great care, be applied in small quantity, and closely confined to the point upon which it is designed to operate. It may, if skillfully used, be valuable in those cases where there is exceeding general nervousness and irritability, and very great soreness of the parts, so that the patient will not have the tooth or root extracted, without something to mitigate the suffering. There are cases in which we would prefer this treatment rather than to use chloroform.

# DENTAL REGISTER OF THE WEST.

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# Original Essays and Communications.

### LABOR.

BY W. H. ATKINSON, D. D. S.

[Read before the Indiana State Dental Association, Jan., 1861.]

LABOR, to be eminently successful, must be regular and persistent. It matters not in what department of the activities of life the lot is cast, these principles are, like truths, immutable.

The divisions of labor naturally present themselves in a certain definite order.

I. Into receptive and projective.

II., 0. Fractional—1. Unitary—2. Binary—3. Ternary—and 4. Multitudinous; each of which must be the result of receptive and projective forms of the various sorts and degrees.

a. Fractional, belonging to amorphous chaotic conditions. b. Unitary, to mineral. c. Binary, to vegetable. d. Ternary, to animal, and e. Multitudinous, to anthropological planes of labor.

The attributes of each plane will satisfactorily elucidate this to the attentive.

To fractional labors we must not look for entire attributive display; but particles and granules, without constant regular attribute of even fractional form, hold the dominion here.

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To the mineral we may clearly perceive that definiteness of form—its sole (unitary) attribute—properly belongs, and is the basis of all corporeal, material shapes.

Vegetable—Binary-attribute, possessing not only definiteness of form, but has also the power of multiplication (the outcrop of sex displays itself between budding) and fructification, the first being only multiplying the same structure—the second being example of true reproduction.

The animal is ternary in attribute—possessing form, reproductive power, and added to these the essential one of intelligence, which enables it to be conscious of its own existence.

Anthropolgical plane of existences has multitudinous attribute, viz: Form, reproduction and consciousness—To which are added mental and moral attributes, themselves compounds, enclosing the possibles to the full measure of all these; to but name which would expose to the liability of being dubbed ideal, visionary, heterodox, etc., etc. And for the present it is probably wise to forbear to further pursue the "inevitable" line of march!

The great majority of labor, in this country, is performed for a consideration, and that of a money value, rather than as an expression on the part of the laborer that he is willing to spend and be spent for the sake of the high consciousness of being of use in the world, which really more ennobles a man than all other possessions beside. I need only to refer to the thousand little things performed in the every-day "courtesies" of life, that so potently bind society together in a sweet and lasting interchange of these, without fear or hope of reward, other than this very remuneration of the consciousness of having saved a fellow-creature from pain or loss of life or limb, or a soul from death.

Labor, cheerfully performed, elevates it to "exercise,"—from pain to pleasure, from unwilling drudgery to blissful recreation, which negatives the original sense of the Latin root, meaning to fail, give out, be exhausted, run down, like a clock, so as to require replenishing.

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A well selected time and occasion have much to do with the efficiency of the various labors. As the day of twenty-four hours is our best unitary division of time, because including the entire round of phases, it will best serve us in our divisions to have especial reference to the natural provision of light and darkness, with their intermediate blendings, these two culminating points of this day corresponding to 12 o'clock at noon and 12 at night. They are also inceptive points, as well as points of focalization of the mutations of the two opposites—Light, and its absence we denominate Darkness.

To the morning especially belong projective labors; for the very good reason that when we are fully charged with the elements of capability, we the more easily accomplish exhaustive and beneficent works. Projective works are best done in strong light, and they should be entirely spontaneous.

The afternoon should be given up to receptive forms of labor, such as studies, visits of mercy, observations, etc., etc. In a word, learning—prehensively filling our mentals with the pabulum upon which to exercise our ruminating powers, so that we may become again charged for the next morning's repetition of projective labor. To properly execute these, they should be done in a receding light and with much meekness of spirit.

Commingled labors properly belong to the absence of light, and are embryonic—rumination, reflection, gestation, and recapitulation. If all these be properly turned over in regular succession, from one end of the chain to the other, and then back, so as to cause the whole number of its links to come again potently before the consciousness, we in some degree digest them, and lay them away for future use. But if we have been literally stuffed so full that the mentals were so clogged that we had not this room to recapitulate, on the law of memory, we are just in the condition of the gourmand who has so distended his stomach as to close by stretching the mucous and gastric follicles so tightly that the blood could not inflow to their delicate net-work, and produce the proper

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solvent of the contained mass, out of which to prepare the nabulum of life: and thus, instead of being recreated, is made sick, or poisoned upon the very thing that would have sustained and improved him, if only taken in moderation and with propriety. And who pities under such circumstances? Ans.—A very few who know how sweet to the taste it is to receive a fresh supply of new mental food; who alone are able to help out of the dilemma, by just quietly asking a few questions touching some of the incidents of labor; that like uncorking a bottle of champagne, gives it vent, and so relief is at once attained; by disposing of a link at a time, incident after incident, taking just what is adapted to the present use out of it, or passing it altogether, as effete matter, not worth the room it would occupy. And after thus disposing of the entire gorged mass of receptive labors, we may commit ourselves to our guardians, for the repose our worn machinery needs. As soon as the kind little angels of the life forces have filled our receptacles, we from this cause return to consciousness, and we say we are awake. Then if we would fitly do our work, let us not turn over and court sleep again; for if the proper steps, just rehearsed, have been taken, we will be more wasted than invigorated by a too full, crowded, stuffed state of projective power, that requires the master to teach us how to put again in the proper state of activity, to avoid spoiling the delicate brain centers, where ideas become thoughts, and these, in turn, opinions, beliefs and true knowledge.

It has already been said that all labors primarily divided themselves into receptive and projective. I now wish to extend this defining a little further, as expressive of this primary division, and say they also divide into negative and positive, or passive and active, cumulative and distributive.

Secondarily, they divide into fractional and whole or unitary, and these into binary and ternary—unitary corresponding to and belonging in the mineral kingdom; binary to the vegetable, and ternary to the animal kingdom.

Thirdly, multitudinous occurring in and properly belonging to man and the superior intelligences.

Each form of labor being an advance upon the preceding in regular numerical order, with an addition of something more elevated and complicated, so that the higher we go, the more ballast we need. Who has not often with interest contemplated the pleasure with which infants and young creatures, when not confined, exert every muscle and organ in their beautiful bodies? They must do the work of projection as fast as the receptive influx has charged them, or they fail of the development intended.

Just how far these works are the subject of consciousness, will depend upon the circumstances attendant upon begetting, gestation, birth and after care; constituting the primals of germinal developmental and digestive education. A failure ever so minute here is sure to produce its infallible impress in the exact ratio of the importance of the arrest of full receptive or projective labor. This law accounts for the scarcity of the typal perfection among animals and man. Also in the trades and professions.

Compensation
1. High.
2. Intermediate from tion of our abilities, and gratifies ambition.
3. Low.
3. Low.
4. Lowest remuneration is in representative of value, cash or its equivalent, and affords us a solid basis upon which to build our edifice.

Those who labor for the highest reward are also in the way, in case of failure, of the other grades of compensation. But he who sets his aim at 2d or 3d rate elevation will, on this law, only be entitled to that at which he directed his forces, and those incidentally below.

The great majority of aspirants attain a degree lower than their aim, and hence the rule is to find success of the lowest grades most prevalent among all sorts of laborers, viz: Muscular, mixed and mental; sense of use, other than selfish, never obtaining in muscular, seldom in mixed, and only with

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the minority in mental labors; so we have very few who are really always in the highest exercise of their ability.

Multitudinous labors are made up of a great variety of specific forms that are included in groups, and these divided again into more circumscribed limit, down to the special departments, in which are performed the minutiæ of detail of

projective labor where operations are produced.

Each of the departments has its particular atmosphere, which has a marked influence upon the progress of those who fully enter within its limits. Hence the propriety of schools of the departments, where free communion may be enjoyed by all in pursuit of the attainment of these branches. For it is not the measure of the true professional man to have him stand a good examination on all science outside of his speciality; but fail in the fundamental and basal knowledges upon which successful practice is dependent. Hence he who quotes Shakspeare, Byron or Paul de Koch with fluency and accuracy should not take precedence of him who knew nothing of these, but was familiar with the works of Esculapius, Aristotle, Galen, Spallanzini, Harvey, Cuvier, Owen, Ehrenberg, Hassall, Carpenter and Rokistansky (et id omne genus.)

Probably the greatest hindrance to true development is in the excessive desire to obtain and care for property. Most men restlessly strive for the attainment of their particular ambition. And by far the greater part of these workers—laborers—seek property in some form, and usually not for its uses, but simply for its possession. Here lies the secret of such universal failure,—the product of the labor of brain or hand is esteemed above the work itself, and hence, long before the goal is attained, we have, in the great majority of cases, fretted to destruction the thing that gets, in our exclusive care of what is gotten—presenting the ludicrous example of "vaulting ambition o'erleaping itself." Then let us distribute as fast as we attain knowledge or skill, and thus surely avoid must, rust or loss by dissipation. Cells flow into and become lost in each other, as to individual identity, to be ad-

vanced to higher and finer combinations in elevated uses. So let us be willing to project our ideas in a free interchange to the advancement of the profession, even if we should lose our littleness and identity by the noble exercise.

# Proceedings of Societies.

## AMERICAN DENTAL CONVENTION.

REPORTED BY GEO. T. BARKER, D. D. S.

THE Convention was called to order on Tuesday morning, August 6, 1861, at 11 o'clock, in the Music Hall, New Haven, Connecticut.

The President, Dr. T. L. Buckingham, in the chair.

The minutes of the last session were read by the Recording Secretary, Dr. B. W. Franklin, and after slight amendment, were approved.

A discussion relative to the admission of members ensued. Dr. Rogers, of Utica, N. Y., suggested the issuing of tickets to members by the Treasurer on payment of their subscription, and that only those holding tickets be admitted on the floor.

Dr. Franklin opposed having tickets, and advocated opening the hall free to all who chose to attend. He wished the public, men, women, and children, would come in and fill the galleries. and so be educated in this most important subject.

Dr. Roberts, of New York, moved that all who wish to become members should sign their names on the roll and pay their subscription, which motion was carried.

The following gentlemen enrolled their names and residences also paring the required aggregation to

dences, also paying the required assessment: California.—S. Crossett, North San Juan.

CONNECTICUT.—Samuel Mallett, I. Woolworth, H. J. Stevens, A. B. Smith, J. H. Smith, J. T. Metcalf, New Haven; J. B. Snow, D. H. Porter, H. L. Sage, C. Merritt, Bridge-

port; L. Parmele, J. S. McManus, E. E. Crofoot, Hartford; A. B. Welton, Milford; A. W. Allen, W. W. Clapp, Norwich; A. Hill, Norwalk; J. A. Pelton, Middletown; T. S. Scranton, Madison.

MAINE.-J. M. Nevins, Bucksport.

MASSACHUSETTS.—J. Beals, Greenfield; I. J. Wetherbee, Boston; W. W. Rice, Great Barrington; W. L. Bowdoin, Salem; Thos. Palmer, Fitchburg; S. G. Henry, Westboro; H. M. Miller, Westfield; F. Searle, Springfield.

New Jersey .- S. J. W. Neal, Camden; C. S. Stockton,

Mount Holly.

NEW YORK.—T. H. Burras, D. A. Jarvis, W. B. Roberts, A. McIlroy, C. S. Miles, B. W. Franklin, John Allen, A. Jones, W. H. Allen, G. H. Perine, New York City; Geo. E. Hayes, B. T. Whitney, Buffalo; A. N. Priest, L. W. Rogers, Utica; W. B. Heard, W. W. Starr, Brooklyn; S. Mapes, Fishkill; M. Frank, Cortlandt; T. D. Evans, New York Mills; J. C. Smithe, Millerton; H. N. Fenn, Rochester; H. F. Smith, Pine Plains; W. S. Elliott, Sag Harbor; L. W. Sutton, Greenport; A. H. Brockway, Chittenango.

OHIO .- W. H. Atkinson, Chas. Butler, Cleveland.

Pennsylvania.—T. L. Buckingham, S. S. White, J. D. White, Geo. T. Barker, J. L. Asay, A. Merritt Asay, J. R. McCurdy, Philadelphia; James Fleming, Harrisburg.

VERMONT .- M. Tefft, West Poultney; J. N. Scranton,

Bennington.

The Treasurer, Dr. A. N. Priest, of Utica, N. Y., made his report, which was referred to an Auditing Committee, consisting of Drs. Burras and John Allen, and upon their recommendation was accepted.

Dr. F. Searle, of Springfield, Mass., as one of the Executive Committee, reported that Dr. F. Y. Clark, of Savannah, Ga., having seceded, they had added Dr. B. T. Whitney, of

Buffalo, to the Committee.

Dr. Whitney stated that Dr. Clark retained the programme in his possession which had been adopted by the committee, and not being able to get it, a new one had to be prepared, causing a delay in its issue.

They presented the following report, which was adopted:

## ORDER OF BUSINESS.

1. Reading the Minutes of the last Convention.

2. Admission of Members.

3. Report of Officers and Committees.

4. Election of Officers.

5. Retiring President's Address.

6. Induction of Officers elect.

7. Miscellaneous business.

All essays shall be read to open the discussions on the subjects to which they relate.

No member shall speak more than fifteen minutes, nor more

than twice on the same subject without permission.

#### I. ETIQUETTE.

1. Fraternal relations and courtesies among dentists and with physicians.

2. Intercourse with patients and the public relating to

neighboring practitioners, and their operations.

#### II. SURGICAL DENTISTRY.

1. Ulceration of the deciduous teeth, its effects upon the

growth or health of the permanent ones.

2. Inflammatory diseases of the gums and periosteum, producing absorption of the sockets and loosening of the teeth; causes and treatment.

3. Bleaching teeth when discolored from loss of vitality;

means for preventing their discoloration and ulceration.

4. Filling teeth and roots. What is gained by fang filling, and average of success?

5. The various plastic materials for filling teeth. Their

relative or individual merits.

6. Hemorrhage after extracting teeth. Treatment.

7. Miscellaneous subjects relating to Surgical Dentistry.

#### III. MECHANICAL DENTISTRY.

1. Surgical preparation of the mouth for artificial dentures. Should the roots of decayed and broken teeth always be removed?

2. When shall we insert pivot teeth?

- 3. The relative merits of the various materials used as a base for artificial dentures, and the method of mounting them.
- 4. Miscellaneous subjects relating to Mechanical Dentistry.

### IV. UNFINISHED AND MISCELLANEOUS BUSINESS.

N. B.—The Executive Committee suggests that half an hour every morning be devoted to the presentation of models, improvements, and inventions, and the disposal of business not embraced in the regular order.

B. T. WHITNEY, F. SEARLE, WM. A. PEASE,

The Convention proceeded to the election of officers for the present year.

Dr John Allen, of New York City, was unanimously

elected President.

On motion of Dr. Rogers, it was voted that in the afternoon session the members' names be called, and they take their seats on the side of the hall at the President's left.

Adjourned until three o'clock.

## AFTERNOON SESSION.

The President called the meeting to order at three o'clock, and the balloting for officers was resumed, which resulted in the following selection:

Vice-President—Dr. J. D. WHITE, of Philadelphia, Pa. Recording Secretary—Dr. F. SEARLE, Springfield, Mass. Corresponding Secretary—Dr. B. T. WHITNEY, Buffalo, N. York.

Treasurer—Dr. John T. Metcalf, New Haven, Conn.

The retiring President, Dr. Buckingham, remarked that it was a source of regret to him to state that he had no address prepared to deliver on retiring from the Chair—his excuse was that, owing to the distracted state of the country, for some time there seemed to be an uncertainty whether or not the present meeting would be held, and since it had been so determined, it had been out of his power to prepare one. He was glad that two Secretaries had insisted upon this annual session's taking place, and now felt, from the number present, that his own fears were groundless; indeed, the more that he saw of this Convention, the more he was convinced of its value and its progress. The old American Association, where the whole work was done by a few, and the meetings were so controlled, was a failure; but an institution where all is free and open, with appropriate rules for government, he considered a necessity.

Drs. Rogers and Wetherbee were appointed a committee to conduct the President elect to the chair. Dr. Rogers said, "It is known that 'republics are ungrateful;' but surely this can not be true of the American Dental Convention, for they have called the man who stands first in mechanical dentistry in the country to preside over them. I introduce to you Dr.

John Allen, of New York."

On taking the chair, Dr. A. expressed his thanks for the honor conferred, and his wish that it had fallen on some one more capable. He said since he was there, all he was or could do should be theirs. He had seen many changes in his life, yet none like the one now agitating the country. Still he could not but congratulate the Association upon the present state of the profession and the number in attendance, even considering the absence of many who usually were with us.

The other officers elect came forward and took their seats. On motion of Dr. Wetherbee, it was voted that a reporter be employed to furnish the discussions for the daily papers published in New Haven. His object, he stated, was to carry this information outside of the dental journals, and, by giving it publicity, thereby acquaint the people with their designs, and interest them in the subject.

On motion of Dr. Hurd, it was voted that the Executive Committee make a report of the order of business and subjects

for discussion previous to the final adjournment.

On motion of Dr. Wetherbee, it was voted that Dr. W. Hooker, of the Medical College, and other medical gentlemen

of this city, be invited to seats upon this floor.

The President appointed the following as the Executive Committee: Drs. W. H. Atkinson, Cleveland, Ohio; George T. Barker, Philadelphia, Pa.; W. B. Roberts, New York City; I. J. Wetherbee, Boston, Mass.; Samuel Mallett, New Haven, Conn.

Dr. Franklin moved that the several dental journals be furnished with a copy of the Report of the Executive Committee, with the request that they will give said report an insertion in each number during the ensuing year. Adopted.

Dr. Wetherbee moved the appointment of a committee of three to revise the Constitution. After an amendment by Dr. Buckingham that the committee report before the final

adjournment, the motion was carried.

The President called for essays or remarks upon the first subject for discussion, Etiquette, considered—1st, in "Fra-

ternal relations and courtesies among dentists and with physicians;" and 2d, in "Intercourse with patients and the public relating to neighboring practitioners and their operations."

Dr. WHITNEY thought this one of the most important subjects for the consideration of the dentist, and yet it received but little attention even in the dental periodicals of the day. The practical or manipulative department may be found in books, but this could not be so learned. He referred to the difference to-day in the dental profession and what it was twenty years since, when he entered its portals; then each member were his mantle of secrecy, and what knowledge he possessed was securely locked in his bosom. It was our duty. he thought, to impart all useful information that may tend to the benefit of others. Even as a matter of policy, it is best; for, by a narrow-minded course, we not only lose our own self-respect, but expose ourselves to being considered charlatans and quacks. We also owe much to the medical profession, to whom we have the claim of kindred; and particularly to the medical practitioner do we owe courtesy, and should cultivate with him the most friendly feelings, as there is often a mutual dependence necessary between the two professions.

Dr. ATKINSON thought the whole of etiquette was a personal matter, and yet every man of experience knows how sore a point it has always been. Every honest young man who enters the profession, and all are such at their commencement, asks, "What do I owe in respect to my elders?" and justly inquires, "What is etiquette?" Does he always see it in his elders? Do we even know exactly what it is? Does not every individual put his own construction upon it, varying from it according to the influences surrounding him? The golden rule, he considered, was all sufficient, and is the only sure guide, in all cases; ask yourself the question, when in doubt, would I have others so act to me? The scientific man too often locks what knowledge he has gained in his own breast, and resolves that it shall die with him; but this is not just or right, for we must acknowledge that all we have comes from the great Father for the benefit of the race. Until these general principles are recognized, etiquette is useless. Earnestness also is essential to insure success, and if accompanied with honesty, few would fail. Even an old, hardened sinner can be awakened to his condition if approached with simplicity and honesty.

On motion of Dr. Mallett, Dr. Worthington Hooker was invited to address the Convention.

Pr. Hooker referred to the pleasant intercourse which existed between the two professions, and the frequent necessity of meeting each other in consultation; indeed he had that day been engaged with Dr. Mallet in the administration of ether as an anæsthetic. He did not consider the golden rule would in all cases answer in this matter of etiquette, but believed that errors were often made from misconceptions in both professions. He would instance such a case: A patient may present himself to the physician, suffering from neuralgia. Medical men, as a class, are too apt to ignore the influence which the teeth may exert, and will probably say the disease is due to some other cause. If, subsequently, the dentist is visited, he will probably say that the decayed teeth are the cause. In this expression of opinion the dentist does wrong. for he should first ascertain whether a physician has been consulted, and then advise with him; and the same rule should be observed on the part of the physician. In this way a pleasant and high-toned intercourse will be observed, and the rights of both be maintained. Mere thoughtlessness was too often attributed to a want of courtesy. Much harm was done by men in all professions who profess to know everything. and yet expose nothing but their ignorance. He went to such a one in dental practice some time since, who perfectly flooded him with knowledge, and protesting he could determine the effect of ether upon any person at sight; he would not be understood, however, as being opposed to knowledge, but would have all know as much as possible; but let us not forget that others may be as well informed as ourselves. Dr. H., at the request of the Convention, gave at some length his views upon the proper exhibition of ether, and considered that for dental practice it was not necessary to produce total insensibility, but believed there was a period when partial ænesthesia is induced, in which sensation is lost without a loss of consciousness.

Dr. Wetherbee said medical men often felt regret at the expression of opinion by dentists on diseases which did not belong to the dental profession; thus presenting two conflicting judgments to patients, often tending to the disadvantage of both parties. We ought not to be jealous of each other; but a relationship should exist, which should be firmly cemented with a just acknowledgment of the rights of both.

He longed for the time when dentistry would be more fully acknowledged as a twin sister of the medical profession. They have claims upon us, and we upon them, which can not be thrown aside; but we must first make it apparent to the community, as well as to other professions, that we are masters of our art. In our judgments of the work of other practitioners, let us be guided by the highest sense of justice and honor. In many cases he considered silence the better part of valor, as there are often circumstances over which the operator can have no control, which may affect the quality of the work; if we thoughtlessly pass condemnation, we also may be condemned by others for the same failings. thought, however, when teeth came under notice that had been destroyed by amalgam, osteoplastic, or other base materials, we should, without referring to the operator, advise the patient to have them removed, and for the future avoid their use, stating our reasons for such a judgment. Dr. W. alluded to several cases in which he had consulted with physicians; their intercourse terminating with the pleasantest results, and had ever found them ready to impart information to the honest inquirer.

On motion, adjourned to meet on Wednesday morning at

half-past nine o'clock.

## SECOND DAY-MORNING SESSION.

The minutes of previous day were read and approved. The following communication was received and read:

College of Dentists, England, 5 Cavendish Square, London, July 9, 1861.

To Prof. T. L. BUCKINGHAM,

Dear Sir:—The subject of the proposed "World's Dental Convention" has been brought under the notice of the Council of this College, and we are requested to communicate to you, as President of the American Dental Convention for the current year, that in the event of the General Convention being held in London during the Great International Exhibition of 1862, the College of Dentistry will deem it an honor to welcome their professional brethren from America, whose enlightened labors have tended so much to secure for the profession of dental surgery a distinguished scientific position in their own country, and have proved a noble example to the dentists of other countries.

The Council had hoped that the College of Dentists might be made available for the great meetings of the Convention, but inasmuch as the profession in England is so divided, it appears desirable that neutral ground should be chosen for this purpose, that both sections of English dentists might unite to welcome their brethren from distant lands.

We have the honor to remain, dear sir, with much respect,

your faithful servants,

(Signed) GEORGE WAITE, M.R.E.S., Pres.

SAMUEL LEE RYMER, ANTHONY HOCKLEY, Anthony Hockley,

On motion of Dr. Franklin, it was accepted and ordered to

be incorporated in the minutes of the meeting.

On motion, a committee was appointed, consisting of Drs. Buckingham, Wetherbee, and McIlroy, to take into consideration the letter, advise any action they may think expedient,

and report at to-morrow's session.

The discussion on "Professional Etiquette" was resumed. Dr. Hurd, of Brooklyn, fully approved of what had been said yesterday, and believed all had no doubt been profited, but considered we had but crossed the threshold, as the subject was both extensive and far reaching, even beyond the precincts of our profession and that of the physician. It required us often to descend from our lofty eminences and consult with those we may consider our inferiors; but who of us has not imperfections? and even a bungler should receive consideration if he is honestly striving to elevate himself then it is he is entitled to the respect of every member of the profession. True etiquette goes even further, and requires silence upon others' faults; even when justice would seem to demand exposure, it prevents those significant winks and nods. which often convey so much, and all public criticism upon a brother's writing or spelling. Selfishness and envy must be thrown aside before we can hope to attain perfection. I had rather, said he, bless my own soul by a good act toward an enemy than do him injustice by an ill-natured remark. (Dr. H.'s remarks were delivered in a most eloquent manner, and were, as they deserved to be, warmly applauded.—Rep.)

Dr. Searle referred to the time, which was not far distant, when medical men looked upon dentists as mere mechanical operators, and therefore denied them their confidence and respect. But now, those men are passing from the field of action and a younger and more liberal class are taking their

positions; and upon these we can exert an influence for good which will result in a mutual benefit. Particularly upon the diseases of the teeth can we give them instruction, and he had always found that it had been kindly and generously received. He would, however, have dentists know and assert their rights, and where this was done, it would be both beneficial to patients and medical practitioners.

The President, Dr. Allen, requested Dr. White to take the chair, and proceeded to read a paper upon "Causes which retard Dental Progress. (This will be published in a future

number.—Ed. Reg.)

The subject of "Professional Etiquette" was resumed.

Dr. JARVIS considered the subject of fundamental importance, and would be glad if we could lay down some rule by which our actions might be governed in all cases. The golden rule is one of great beauty, but thought there were circumstances in which it would not apply. It might be thought preposterous to think of superseding it, but would prefer to adopt the following: First, Kindness, uniform and never to be forgotten. Second, Justice though the heavens fall. would instance a case where the golden rule should be laid aside for these. A person consults a physician as to the cause of pain in a tooth which has been previously filled; he expresses his opinion by stating that the pain is due to the filling; if, when the dentist sees the case, finding the filling perfect, that the pain is the result of a bruise, he would ask, if we should apply the golden rule, would say no! If there be blame, and justice to others requires us to show it, he would never hesitate to do so, accompanying it with all kindness, but yet with justice as a requirement of the profession.

Dr. STOCKTON passed a high eulogium upon the kindness he had received from the elder members of the dental profes-

sion.

On motion, the next subject for discussion was taken up, being "Ulceration of the Deciduous Teeth, its effects upon

the growth or health of the permanent ones."

Dr. J. D. White remarked that he supposed the question referred to the effect of ulcerated roots, and would answer, that he should not always consider them injurious. It is true that by the early loss of the temporary, an indirect influence may be exerted upon the permanent teeth. He considered the judgment of the operator could be the only guide for the treatment, as if the ulceration is extensive, it may do injury

to the permanent, but if not so, thought no harm would result. The presence of the deciduous teeth are of the greatest necessity for the perfect development of the permanent set, and never extracts such teeth, except upon the direst necessity. It is the great fault of operators to yield too readily to the importunities of parents in removing such teeth-indeed it seemed to be an almost American trait to be anxious to get rid of the temporary teeth; as a consequence, we meet constantly with contracted maxillary arches, particularly of the superior jaw, the result of this meddling. He had been censured for this course, but believed it to be the true one, as the disease to these teeth will often pass off, leaving them to perform their natural functions in the animal economy. The old practice, viz., that of the removal of all diseased teeth. both permanent and deciduous, he had seen the folly of: indeed had often cut off the ulcerated roots of deciduous teeth. where they had been pressed from their sockets, causing irritation to the cheek, being held in by a small portion of gum, embracing the neck of the tooth; and remarked that all were doubtless aware the process of absorption of the fangs was arrested when they were thus ulcerated.

Dr. Atkinson agreed with Dr. White, that we often distort the faces of the dear children by our haste to interfere where "an angel would not dare to tread." We should have a higher conception of molecular action, and should study more closely the influences governing absorption of the fangs of the temporary teeth. He knew that we extract too many deciduous teeth, while with our own children we search out the cavities of decay and fill them. If we allow these teeth to disintegrate and be lost before the permanent ones are ready to take their place, there will be a lack of development, for the necessary molecules can not be deposited unless there is the requisite amount of circulation. He described ulceration to be merely the effort of nature to remove the brokendown and disintegrated tissue about the apex of the fang, and thought Dr. White's method of amputating such fangs, when possible, was correct practice.

Dr. Butler considered amputation of roots quite as practicable as that of a finger. It would be well to examine and see to what ulceration is due; it is usually the result of the death of the pulp, and this we should prevent, when possible,

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by filling deciduous teeth. He had, on several occasions, cut off the palatine fang of permanent molar teeth, and such have been retained and performed good service.

Dr. Wetherbee referred to parents bringing their children, with the desire that certain teeth should be extracted; he would advise them against such action; they would frequently go away, but again return, begging him to operate; in such cases he would peremptorily refuse, considering it the worst of malpractice. We should not fail to explain to the parent, and enlighten them as to our reasons. He usually recommends, for the removal of the fetid condition of such teeth, a daily syringing, sometimes with creosote, more frequently with paregoric; has also treated such teeth and filled them successfully.

Dr. PRIEST spoke of the necessity of filling the deciduous teeth, and thought it our duty to educate parents as to its importance.

Dr. Woolworth agreed with Dr. Priest, and had noticed where the deciduous teeth were extracted early, the permanent ones would also come through too soon.

Dr. Buckingham said that ulceration was only one of the effects of inflammation, but considered that the influence exerted would depend very much upon the general health of the child; in a perfectly healthy one, as bad results would follow, but with the reverse, such systemic disturbances may be exerted, that it would be necessary to extract the tooth; therefore, the judgment of the operator could be the only guide. The circulation and nutrition of the permanent and that of the deciduous teeth were so independent that he considered (except in rare cases) no local influence could be exerted upon the former by the ulceration of the temporary teeth.

Dr Atkinson drew a diagram, and gave a lengthy and interesting description of the formation of an alveolar abscess; he would, under some circumstances, extract ulcerated deciduous teeth, when occurring at an early stage, when the permanent ones were in a soluble condition; considered such cases rare. In one case could recall, where ptyalism was induced in a child until sloughing of the process containing the deciduous teeth took place, and yet the person eventually had a good set of teeth. Dr. A. was asked and answered several questions on this subject.

Dr. White, in reply to a question, as under what circumstances he would extract deciduous teeth, said that individual cases prove nothing, but we must form our judgment from the great aggregate of practice. No surgeon, let the description of the case be ever so minute, would venture upon a prognosis without seeing the patient; and this answer he would make to the question; he must see the patient, or he could tell nothing. It was impossible to put on paper just what you would do in all cases; could only say, would extract the diseased deciduous ones, when he felt they were damaging the permanent set; would refer to the importance of taking notes of everything that occurred in practice; particularly should this be observed by young practitioners. Many things were to be taken into consideration before determining to extract, and where the general health seemed to be suffering. we should call in consultation a medical adviser.

Dr. ROBERTS would ask Dr. White, what proportion of teeth he extracts for children where he fears the permanent ones will be affected?

Dr. White seldom extracts for the effect upon the permanent set, but usually from the influence exerted upon the general health. Has seen much injury done by early extraction, but had charity to think the children might have been suffering from constitutional disturbances; but thought, if the permanent tooth is laid bare by early extraction, when the enamel is not dense and will absorb the fluids of the mouth, injury must follow.

The discussion, which was of an interesting character, though confined much to questions and answers, was continued at some length, being participated in by Drs. Franklin, Whitney, Palmer, and others.

Drs. Wetherbee, Whitney, and Rogers were appointed a committee to revise the Constitution.

Communications were received from Dr. Charles Hooker, inviting the Convention to visit the medical institution of Yale College; also from Mr. Herrick, extending an invitation to the members to visit the Trumbull Gallery, Museum, and the various college buildings.

On motion, the thanks of the Convention were tendered to these gentlemen, and the Secretary was instructed to commu-

nicate the same.

Adjourned to meet at three o'clock.

## SECOND DAY-AFTERNOON SESSION.

The President called the Convention to order at three o'clock.

On motion, the second subject in "Surgical Dentistry" was passed over, and the third, "Bleaching Teeth, when discolored from loss of vitality; means for preventing their discoloration and ulceration," was taken up for discussion.

Dr. J. D. WHITE considered the term "dead tooth" an erroneous one, as even when the pulp dies, the periosteum still performs its limited function of nutrition; but this error of language was due to the fact of the deficiency of a good dental nomenclature. The discoloration seen in teeth, after the death of the pulp, is usually attributed to the breaking up of the red corpuscles of the blood, the hæmatine or coloring principle of the same permeating and becoming lodged in the tubular structure of the dentine. This he considered was not the cause, but thought it due to an absorption of the fluids of the mouth. Again, teeth will not discolor after they have been removed from the mouth. A blow or other injury will discolor a tooth; and, indeed, had seen teeth with live pulps that presented the red appearance. Why this was so he could not tell. A tooth may also become discolored by an inflammation of the pulp before its death. As to the bleaching of teeth, each one had his favorite method; he would only refer to one which had been spoken of in one of the recent dental journals, viz., Labarraque's solution; this he thought very deleterious, as a tooth immersed in it for twenty-four hours, though turned white, has its normal structure completely destroyed, and would rapidly discolor in the mouth.

Dr. BARKER regretted that he could not agree to all Dr. W. had said, that the coloration was not due to the permeation of the disintegrated red corpuscles; because teeth are not discolored out of the mouth after removal. In a healthy tooth, with a living pulp, the tubuli of the dentine are filled with the liquor sanguinis of the blood, which conveys to those tissues the materials necessary for their proper nutrition; this circulation is due to the ever-present action of exosmose and endosmose, and these continue after the death and disintegration of the pulp; and the broken-down, red corpuscles, which previously were too large to pass into the open-mouthed dental tubuli, may now by endosmodic action enter, thus inducing discoloration; but after removal from the mouth, this

action would cease. In bleaching, the first duty should be to bring the tooth to as healthy a condition as possible, before attempting to restore the color. That teeth may be nearly restored to a natural color he did not doubt, as the experiment had been tried on one of his own teeth, which had been discolored for four years, accompanied with a slight chronic periodontis; his friend, after removing the gold filling in the pulp cavity, treated the tooth and restored it to a good color by using a preparation of prepared chalk and chloride of lime, introducing it each day.

Dr. Atkinson said that the subject of bleaching required a vast deal of knowledge of the laws of chemical equivalency. Solor is not an entity, but an arrested fractional part of light. To bleach a tooth, the whole decayed mass, hard or soft, must be removed. Chlorine is the great bleaching agent, and when used, it must be so combined as to produce its least deleterious effects. For this purpose he used the undeliquiesced

chloride of zinc, crowded into the cavity of the tooth.

Dr. BARKER asked Dr. A. if chloride of zinc was a bleach-

ing agent, or had such properties.

Dr. ATKINSON replied that he was misunderstood; that he expressly stated that chlorine was the bleaching agent; and that the chloride of zinc, when introduced into the tooth, undeliquiesced, absorbed water from the mouth, becoming liquid, and thereby the chlorine was liberated to effect its bleaching.

On motion, Prof. G. F. BARKER was requested to give his views on the chemistry of the subject of bleaching. He stated that while it is true that chlorine is the great bleacher, it is quite doubtful whether this action is due to the chlorine itself, since it will not bleach except in presence of moisture. this case, where water is present, the chlorine unites with the hydrogen, setting free the oxygen, which in a nascent state, as ozone, perhaps, effects the bleaching. Moreover, the active agent in both the chloride of lime and soda (the last Labarraque's solution) is not chlorine, as such, but hypochlorous acid, which acid is set free from combination by any other acid, even the carbonic from the atmospheric. In the chloride of zinc—which is a binary compound, while the others named are ternary—no such action can take place. And he contended that the simple deliquiescence of this salt-its passage from a solid to a liquid state—could not, in the nature of things, decompose the salt and set free the chlorine for

bleaching. "This is not my opinion," he concluded, "but the fact. I have no opinion on the subject."

Dr. Butler asked to what the influence of chloride of zinc was owing, as he had noticed its beneficial effects in whiten-

ing teeth.

Prof. BARKER replied that whatever virtue there was in this substance to whiten, was due rather to the salt as a whole, than to either of its constituents. His impression was that it acted physically in presenting a white ground in the tooth, and perhaps assisted to soften and remove animal coloring matters.

Dr. HAYES said that after trying all the so-called "bleachers," he had returned to the old practice of scraping the decayed and discolored bone from the pulp cavity and canal as much as possible, and then filling solidly with gold, and ob-

tained good results.

Dr. Wetherbee had for ten years discarded bleaching agents in the treatment of discolored teeth. He first removes all foreign matter in the pulp chamber, and then thoroughly scrapes the inside of the fang, cutting away all dead bone, then fills the tooth solidly with gold. Teeth well filled will

often return to a nearly natural color.

A discussion took place between Drs. Wetherbee and Atkinson as to the anatomical structure of the tooth, and the existence of cementum in its interior. Dr. A. contended there was no internal cementum, but only an exterior, covering the fang above the neck of the tooth; while Dr. Wetherbee cited Fox and Hunter to prove that it was also found

internally, acting as a cushion to the dental pulp.

Dr. J. D. White stated that from drawings made from actual specimens when he was microscopist to the old American Dental Society, the structure of a central incisor was bivalvular, resembling a clam; there being two thin plates of enamel lined with dentine, having a membrane on its interior surface, and a large cavity filled with pulp. There is a crack along the cutting edge of every tooth. To prove that this was not accidental, he examined teeth before their protrusion through the gum, and found it true of these.

The tooth from which the microscopical specimen was taken was from a dead subject; it being one that had never

passed through the gum.

Dr. BARKER said he would like to refer to the subject of internal cementum, which had called forth remarks from Drs.

Wetherbee and Atkinson. He would commence by drawing a diagram of a tooth, showing the three different tissues, as described by the best physiologists and microscopists of the day, and would ask why dentine or enamel could not be denominated cementum? and would answer by stating that, first, each one of these differed in the quantity of organic and inorganic material; second, they each were differently constructed, anatomically and physiologically, also presenting quite opposite appearances under the field of the microscope. Cementum has been justly denominated tooth-bone, as it nearly approaches in structure true osseous tissue. If a section of bone be examined with the microscope, we see what are denominated Haversian canals, with branching canaliculi and lacunæ—their use being to convey nutrition to the part which is always extra-vascular—and if a section of cementum be used, we shall see but a modification of this structure, and would ask if any one had ever seen such an appearance from an internal section of a tooth, and doubted if such could ever be obtained. Secondary or osteo dentine under the microscope will present none of these characteristics.

Dr. WETHERBEE said, he would refer Dr. Barker to the works of Drs. Fox and Hunter, to prove the existence of in-

ternal cementum.

Dr. BARKER replied that he would refer Dr. W. to the works of John Tomes, who commenced his investigations where the others ended.

Dr. White stated that the best practice to whiten the teeth was to open and thoroughly clean them, keeping them dry and open to the air and light. This would be better than bleaching, as he had known injury to result from the use of chemicals.

Dr. Palmer had abandoned bleaching agents, but cleaned out the tooth well, and if very much discolored, took out all tissue that was disintegrated, then put in some white lint or flax and filled it solidly with gold, and thus gets a good color.

The Committee on Constitution made a report, through their chairman, which was adopted, and the committee thanked for their promptness.

We quote only the following from the Constitution:

"ART. 8. Any dentist may become a member of this Convention on the conditions herein mentioned, unless objection is made, in which case he may be excluded by a vote of the Convention.

"ART. 9. Honorary members may be admitted by a special vote of the Convention."

Adjourned to meet on Thursday at 9 A. M.

## THIRD DAY-MORNING SESSION.

The Convention assembled and considered various dental

inventions for an hour.

Dr. Franklin presented to notice a new style of vulcanite teeth, invented and manufactured by Mr. S. S. White, of Philadelphia. The peculiarity consists in having a protuberance molded upon the block to assist the pins in retaining the teeth in position in the rubber base. He also exhibited an improved vulcanizer, with a fusible metal gauge as his own invention.

Drs. Hayes and Whitney also presented their own improve-

ments in vulcanizers.

The committee to whom was referred the London communication made a report, which, after considerable discussion, was recommitted—Drs. Hayes, Rogers, and Franklin being added to the committee.

On motion, the Convention went into ballot to select the next place of meeting. After a long time spent in deliberation, Trenton Falls, New York, was determined upon, the Convention to assemble there on the second Tuesday in August, 1862.

The Executive Committee reported the following as the

order of business for the next meeting:

1st. Admission of Members.

2d. Reading Minutes of the last Convention.

3d. Report of Officers and Committees.

4th. Election of Officers.

5th. Retiring President's Address.

6th. Induction of Officers.

All essays shall be read to open the discussion on the subjects to which they relate.

No member shall speak more than ten minutes, nor more

than twice on the same subject without permission.

## I. MISCELLANEOUS SUBJECTS.

1. Anæsthetics. Their use and relative value.

2. Alveolar abscess.

3. The causes influencing an abnormal development of the teeth.

### II. OPERATIVE DENTISTRY.

1. Filling Teeth. Simple and complicated cavities.

2. The Dental Pulp. Its varied treatment.

3. The Extraction of Teeth.

## III. MECHANICAL DENTISTRY.

1. Artificial Dentures, temporary and permanent.

#### IV. UNFINISHED BUSINESS.

N. B. The Executive Committee suggest that half an hour every morning be devoted to the presentation of models, improvements, and inventions, and the disposal of business not embodied in the regular order.

On motion, Dr. Atkinson was requested to read his essays, which he proceeded to do—the first one being entitled "What lack I yet?" second, "Life." Both of these papers will appear in the October number of the Dental Cosmos.

Adjourned to meet at three o'clock.

## THIRD DAY-AFTERNOON SESSION.

The President called the Convention to order at 3 o'clock. An invitation was received from Prof. B. Silliman, jr., for the gentlemen of the Convention to visit the buildings and laboratory of the Sheffield Scientific School. Accepted, and the thanks of the Convention returned.

Dr. Perine moved that before the meeting adjourned, a certain time be allotted to discuss the propriety of appointing dentists in the army and navy.

The next subject in order—"Filling Teeth and Roots; what is gained by fang filling, and average of success"—was then taken up for discussion.

Dr. Asay described the method employed by him, differing

not materially from the usual one.

On motion, the time for each speaker was reduced to ten minutes.

Dr. J. D. White, in answer to the question as to what is gained by fang filling, said that we gain a great deal, in so far as metal well packed will shut out the gases and fluids which decompose and injure the structure of the teeth, also closing a cavity that may become filled with pus. The assertion that the pulp cavity is empty after the destruction and

removal of the pulp is erroneous; this can be proven by the use of a silver probe, which will always be blackened. Again we see the frequent discoloration of the whole body of the tooth. Softening of the tooth structures takes place in all cases after the removal of the pulp, but this is much greater when the fangs are left unfilled. Does not fill immediately after the pulp has been extirpated, but waits until anastomosis takes place between the divided blood-vessels of the pulp and those of the periosteum, then plugs up the root and crown tightly. Regarded it best so to fill fangs that it may be removed in case of trouble, allowing the proper treatment to be extended. Dr. W. also gave his method of treatment of alveolar abscess.

Dr. BARKER said that, in considering this subject, he would take, for an example, a tooth where the pulp had been destroyed and removed, and would ask, what would be the nature of the inflammation that would ensue at the apex of the fang, and might not the higher grades be induced, which could not be properly treated if the tooth was immediately filled? His custom was to fill with cotton, leaving it for one week after

the extirpation of the pulp.

Dr. Wetherbee thought fang filling the most important work, as it was the best evidence of the ability of the dentist. He would take issue with the last speaker, as to the propriety of not filling immediately. His own practice was to remove the pulp, and having secured the cessation of bleeding by applying creosote, fills at once, and would not be hired to delay it for a single day. Success had taught him that his method was correct, for in no case, during the past ten years, had he seen a single unfavorable case, but had seen bad results where the tooth had been left after the removal of the pulp. Referred to several interesting cases in his own practice, showing the advantage of immediate filling.

Dr. Perine considered that to obtain success we must adopt an eclectic practice. Every one, no matter what his capabilities may be, must, in a certain number of cases, meet with failures. He referred to a case where he treated two teeth, which, after a short time, proved unsuccessful; he removed the fillings, treated the teeth and then filled, but with the same result. Our register may state success after success, but we have no means of knowing how many unfavorable cases fall into the hands of other practitioners; they lost

far more than they were aware of, even where the teeth were well filled.

Dr. Roberts believed when a tooth is diseased, the result of the death of the pulp, it will always remain so, and though it may remain for a long time in the mouth, there will always be more or less soreness felt in it, not enough, perhaps, to annoy the patient, but yet an unnatural feeling. After destroying and removing the pulp, when we fill the fangs, it should be done solidly to the apex; but in the vast majority of cases, we fail to do this, even where we honestly think we do it; particularly is this so in the molar teeth. The manner of filling in many cases must be varied, as certain circumstances and conditions of the patient must be taken into consideration. We may hammer and work at some teeth as much as we like without causing the least disturbance, but in others the most gentle treatment will produce unpleasant results. He did not believe every tooth could be saved, and thought the best operators may fail, from circumstances beyond their control.

Dr. TEFFT related a case of fang filling in his own practice—he would ask Dr. White if those having vitiated constitutions were not the hardest patients to treat. Dr. W. replied that he was always governed by the diathesis and temperament of his patient, and had some for whom he extracts teeth immediately on the exposure of the pulp.

Dr. METCALF referred to an interesting case that terminated in ulceration of a malignant type; he extracted the tooth with the socket attached. He attempted also to treat an exposed pulp in another tooth, but the same result supervening, he of course failed. The patient was of a scrofulous diathesis.

Dr. Franklin said, the failures which are reported are not unfrequently the result of a misunderstanding of the case by the operator; in his opinion, if a definite line of practice was pursued, we could obtain more nearly constant results.

Dr. Atkinson gave, at considerable length, his views as to the change which takes place at the apex of the fang after the pulp has been extirpated, illustrating them by means of a diagram. He thought there was a misapprehension in the minds of many, and that we often go farther than we should, thinking we know more than we do. Thought, if there was no inflammation about the fang, it could be filled immediately—first extirpate the pulp, cleaning out well the pulp cavity, and then proceed to fill. If alveolar abscess is induced, don't

take out the filling, if it is a good one, but treat it from the

outside, by drilling through the process.

Dr. Searle said, we often had to be governed by the circumstances of the patient, as many of his own came from the country, and he could not see them frequently. In cases where he opens into a tooth with a dead pulp, he dares not fill immediately, particularly if he can not control the case; therefore puts in a test filling, and tells the patient in case of trouble to visit the nearest intelligent practitioner, and let him see the case. He never dares to fill a tooth so that he can not remove the fang filling in case of inflammation; also prefers to open into the pulp chamber from the palatine surface of front teeth, in preference to opening through the cavity of decay.

Dr. White explained his manner of rolling a piece of gold so as to be easily introduced and removed from the fangs of

teeth.

Dr. Burras read a paper on "Mastication and Articulation of Artificial Dentures." (For this see future number of the Register.—ED)

Drs. Atkinson, Perine, and Franklin were appointed a committee upon the question of appointing dentists in the

navy and army.

The committee on the London correspondence reported the following letter in answer:

NEW HAVEN, Ct., Aug. 8th, 1861.

Messrs. WAITE, RYMER, and HOCKLEY, College of Dentists, London,

Gentlemen:—The undersigned, a committee of the American Dental Convention, appointed to reply to your letter addressed to this body, beg leave respectfully to say that the fraternal and cordial spirit of your communication has afforded the Convention the most sincere pleasure, and inspired its members with renewed, and, if possible, higher regard for the professional brethren in England.

The committee are requested to return grateful thanks for the very kind manner in which you have been pleased to tender a welcome to American dentists at the proposed General Convention in 1862, and will be happy to make such response

as the circumstances of the future shall allaw.

With the highest esteem, gentlemen, for yourselves personally, and for the distinguished body you represent, we

have the honor to subscribe ourselves very faithfully and gratefully yours,

(Signed) T. L. BUCKINGHAM, Ch'm. Com. Am. Dental Association.

On motion of Dr. Franklin, it was

Resolved, That the officers of the American Dental Convention extend a cordial invitation to the dentists throughout the United States, to attend the World's Dental Convention, to be held in London, in 1862.

On motion, adjourned to Friday at 9 A. M.

## FOURTH DAY-MORNING SESSION.

The President called the Convention to order at 9 o'clock, the usual half hour being devoted to the consideration of inventions.

Dr. Hill spoke of the advantage of the material known as "Hill's Stopping," and thought no dentist could afford to be without it, as it was invaluable as a temporary filling; and had so perfected it, that it was impermeable and water-tight; also showed the method of properly introducing it.

Dr. Asay presented his method of attaching teeth to metal-

lic plates by means of hard rubber.

Dr. Searle presented an approved method of recording

dental operations.

The committee on "Appointing Dentists in the Army and Navy" reported that the subject appeared to them of so much importance that it was necessary that more time should be given to consider it than the present session would admit of.

On motion, the committee was continued with discretionary powers, and Drs. J. D. White and I. J. Wetherbee were ad-

ded to the committee.

The next subject in order was taken up, being "The various plastic materials for filling teeth: their relative or individual merits."

Dr. White referred to the article published in the August number of the Dental Cosmos for 1861, upon the oxychloride of zinc, as the merits of the material were honestly, though modestly enumerated. He was, at first, opposed to the use of these materials, but Dr. Metcalf had sent to him a small quantity, which he had used. In the first case, the filling, after being in eighteen months, continued sound, there being no permeation, shrinking or cracking; in another case, where

a tooth had been filled with gold without arresting decay, the oxychloride was introduced, and the patient thought the tooth felt more comfortable, and the decay did not continue. Whenever a tooth can be filled with gold successfully, will always use it to the exclusion of other materials. A time was when every one was disgraced who touched anything but gold, because so many had been deceived, both patients and practitioners; and he was glad that time had passed, and that there was now a disposition on the part of the profession to give all materials a fair trial. When some professor of chemistry said the oxychloride would destroy the enamel and the dentine, he took a tooth and filled it, and on examining it a month afterward, found there was not the slightest change in the dentine

upon the walls of the cavity.

Dr. WETHERBEE said, his faith was not as large as Dr. White's, for the material had received with him a severe blow, and justice to the profession required him to present the serious objections to its use. He referred to a case, where a dentist had introduced it in five teeth of fair quality, stating that it was better than gold, as this would not expand or contract as gold would do, on taking hot or cold articles in the mouth. After it had been in the teeth six months, he saw the case, and found three of the fillings were out, and one nearly so. while the teeth were sensitive; the decay being quite deep. The remaining one was left in, and at the end of three months it came out, leaving the cavity three times the original size. He assured the lady the material should never have been introduced, and was satisfied the osteoplastic had affected the -dentine; he subsequently filled the teeth with gold. ticle could not be made so that it would not absorb water, and therefore defied any one to make a water-tight filling; and had repeatedly reddened litmus-paper, and even the writing paper in which it was rolled was discolored from its acid.

Dr. METCALF asked Dr. W. to what substance in the mate-

rial he attributed the effect upon the dentine?

Dr. WETHERBEE replied, he thought it due to the oxide of

zinc.

Dr. Metcalf said that, so far as his knowledge of chemistry went, oxide of zinc exerted no action upon the dental structures; about the chloride he was not so positive, but when these were combined, as in the oxychloride, the mixture was perfectly harmless. This was also the view of Prof. Silliman, to whom he had applied when first manufacturing the

article. If it was properly made, it would not absorb water; and though he did not consider it would take the place of gold, thought, in some cases, it would be of use. The practice of a dentist should be "eclectic," as what may be invaluable in one case, may be useless in another.

Dr. WHITNEY asked Prof. Barker for some light upon the

chemistry of these substances.

Prof. BARKER replied that whatever of knowledge he possessed on the subject was theoretical more than practical. From the mode of manufacture given in the Dental Cosmos, he should doubt very much such a thorough combination of the oxide and chloride in the manner of preparation indicated, as would entitle the substance to the name "oxychloride." The oxide of zinc is perfectly inert, and would not be injurious as a filling. The chloride is an active agent, zinc hardly neutralizing the chlorine more than did hydrogen. Chloride of zinc is the material used as a soldering fluid by braziers, to dissolve the scale of oxide and render the metal bright for the union of the solder. Judging from its active properties, he thought its action would be decidedly injurious to teeth. From Dr. Wetherbee's statement that the osteoplastic had an acid reaction, he inferred that the mixture was not made in just the proportions to insure no excess of its components.

Dr. White said, he was probably the first in this country to use chloride of zinc. He placed a tooth in a solution of chloride of zinc for three years, and he thought it was rather improved when it came out, though it was sound enough before. If the chloride removes the animal matter, this is what we want to get at. He used to be told that sugar was bad for the teeth, but since he grew older he had seen its falsity, and even had incorporated it in a dentifrice, for the sake of

its grit.

Prof. Barker stated that in justice to Dr. Metcalf, he ought to state that oxychloride of zinc, if properly made, would not, in his opinion, injure the teeth. He said that he supposed the action of sugar was due to its fermentation, whereby it became converted into acetic acid, which would act on the lime salts of the bone. The relative hardness of enamel, dentine, cementum, etc., would cause the action of carrosive agents to vary immensely.

Dr. Mallett entered his protest against its use.

Dr. Stephens thought it useful, if it would save teeth that could not otherwise be saved; but too much should not be

claimed for it; too many in the community held it up as better than gold for filling. Dr. Metcalf was too honest to offer any article which was not in his hands valuable.

Dr. Smith, of New Haven, uses it when he thinks he can save a tooth with it, that could not be filled with gold. He considered Dr. Metcalf's preparation the best one, and had

used it with good results.

Dr. Roberts believed it to be of value where teeth were exceedingly frail, not of course equal to gold, but its advantage was that it could be introduced where gold could not. It was the duty of the dentist to use what was the best material for the individual case, and his judgment must determine that. He related a case in his own mouth, where a gold filling was unsuccessful, and a bone filling subsequently introduced perfectly preserved the tooth.

Dr. HAYES asked Prof. Barker if a decomposition could not take place between the oxychloride of zinc and the phosphate

of lime in the teeth.

Prof. Barker replied that we have no evidence that such a change did occur. But even if it did, the interchange of elements would break up the arrangement, and so disintegrate the tooth.

Dr. Buckingham had experimented with the different plastic materials, and found them composed of nearly the same chemical constituents. The great difficulty in manufacturing it was to obtain a uniform result, sometimes producing a substance as hard as a stone, and in others it would fail to harden. owing to impurities in the oxide of zinc; again, if the chloride be in excess, it will be constantly tasted, the animal matter of the tooth will be destroyed, and the filling will fail. fluids of the mouth vary, and in some cases will be acted upon more than others. He, therefore, in view of these objections. preferred to use some other material, though he would take issue with Dr. Wetherbee as to his objections, which might as well be urged against arsenic and numberless other articles of the U. S. Pharmacopæia; indeed the objection had been urged to arsenic being placed there because its indiscriminate use would be disadvantageous. He had used the oxychloride as a temporary filling to remove the sensitiveness of dentine with good results, leaving it in from one day to two weeks.

The next subject was then taken up, being "Hemorrhage

after Extracting Teeth, and its Treatment."

Dr. Atkinson referred to the invaluable styptic which has

lately been introduced, viz., persulphate of iron, with which the most obstinate cases of bleeding can be easily controlled.

Drs. Burras, Whitney, Buckingham, Barker, Asay, Wetherbee, Roberts, and Hill gave their methods of treatment.

On miscellaneous subjects, relating to surgical dentistry, Dr. Franklin read an amusing poetical paper, on the advantages of artificial dentures after the failure of operations to save the teeth.

Dr. White, in answer to a question, said he had never met with a case of discoloration which he thought due to the use. of arsenic, and did not fear to use it in cases of sensitive dentine. At one time, he would admit, his mind was trammeled with theory, but that time had passed by. He was free to confess he could not get along without using arsenic, and did not see how others could do so. The various theories that had been introduced failed to account for the sensitiveness of dentine, but thought it due to the presence of nerve fibres in the tubuli. For twenty years he had been practicing where the use of arsenious acid was condemned for destroying sensitiveness; uses it dry (after having been thoroughly triturated in a mortar) in the cavity, keeping it in with cotton or The delicate nerves which have been seen by Mr. Tomes, and by him described, are destroyed, but the bone is not acted upon. True, he might sometimes kill a pulp, but would say that he saved a great many that otherwise would have died. In the approximal cavities of front teeth does not use it, but uses creosote or chloride of zinc-never uses creosote and arsenic together.

Dr Atkinson said that when dry arsenic is put in a cavity, it will become a solution by the affinity which exists between it and some of the chemical equivalents of the tooth. He thought, from his own investigations, and also from those of others, that no nerve fibres could be found in the tubuli. Sharp, quick cuts with an excavator will often relieve the sensitiveness, though he uses undissolved iodine, and sometimes a covering of Hill's stopping. Referred to the importance of having pure creosote, a good test for which is olive oil, dissolving without leaving a precipitate, and said he never filled any cavity without first having wiped it out with creo-

sote.

Dr. Butler said, after using arsenic, either for destroying a pulp or for sensitive dentine, always uses a solution of iodine, leaving it in the tooth for a few hours. The fluids of vol. xv.—36.

the mouth will remove the discoloration, the iodine will also relieve the irritation, and neutralize the effect of the arsenic.

Adjourned to meet at three o'clock.

## FOURTH DAY-AFTERNOON SESSION.

At the appointed hour the Convention came to order.

The next subject in the order of business was taken up,—
"Surgical preparation of the mouth for Artificial Dentures; should the roots of broken and decayed teeth always be removed?"

Dr. Butler instanced several cases where he would not extract roots of broken front teeth, but preferred to fill and leave them, that natural expression of the face might be pre-

served, and absorption be prevented.

Dr. Roberts considered the question could be answered both by yes and no, and thought the word "always" should have been stricken from the question. In preparing the superior arch for an artificial denture, would always extract all roots; but would not, in every case, in the inferior one. He instanced cases where he would prefer to fill the root rather than to remove it.

Dr. Atkinson said, experience was the best teacher, and his own had taught him that it he wishes to retain the natural expression of the mouth, the fangs had better be left, if they are perfect, down to the edge of the alveolar process. The points of insertion of the muscles are also retained, which is of great importance. When nature in her efforts pushes out these fangs, he cuts them off even with the process; they were also valuable in equalizing the pressure of the artificial plate.

Dr. Sutton considered there were cases where it would be best not to extract fangs; where, for instance, there was a short lip and considerable gum was exposed, the fangs, if left,

would contribute to a better expression.

Dr. Haves related a case where he left two roots in the superior arch—the patient refusing to have them removed—over which he placed a set of teeth; it had been worn for twelve years successfully, and he kept cutting them off from time to time.

The next question, "When shall we insert Pivot Teeth?" was passed over, Dr. Franklin only stating it should be done when we have a perfectly sound root, and the operation can be performed satisfactorily.

The next subject, "The relative merits of the various materials used as a base for artificial dentures, and the method

of mounting them," was taken up for discussion.

Dr. WHITNEY said, his experience had been formed by many years' use of silver, gold, continuous gum, and vulcanite work. Of all these he preferred the last named, thinking it superior to anything else. If the impression is perfect, we could be sure of a fit in every instance. The twang, which was so much of an objection in other materials, was in this obviated, besides the cost was not so much to the patient, and it yielded as large a profit as other work to the dentist.

Dr. PARMELE said, he had worn the rubber work, and it produced in his mouth a nasty, sour and sickening effect; the same experience was produced in the mouth of one of his own patients. He did not consider vulcanite to be equal to either

gold or silver-indeed thought it valueless.

Dr. Roberts said, all were not constituted alike and we should only use what was the best for the individual case. His own experience had taught him nothing was equal to

Allen's continuous gum work, when properly made.

Dr. Mallett said, he had been the first to experiment with rubber for artificial dentures in the United States, having perfected it and used it for the last six years. This was a year before Dr. Putnam, of New York, began, and he, therefore, had no claim to the invention. He also referred to the claims of other "so-called inventors." The longer he used the vulcanite work, the better he was pleased with it, and this was also the testimony of his patients, many of whom had worn other materials.

Dr. HILL corroborated the facts in reference to the first use of rubber work by Dr. Mallett, he having seen many of the experiments of that gentleman. He believed it to be a very valuable article, but thinks continuous gum work the most beautiful, and the nearest to perfection.

Dr. Buckingham said that Dr. T. W. Evans, of Paris, claimed to have been the first to vulcanize rubber plates, and to have manufactured the first set of teeth for Mr. C. Good-

year.

Dr. Allen, at the request of the Convention, gave at some length his method of manipulating; presenting many valuable and interesting hints necessary to success with the continuous gum, and closed his remarks by stating his reasons for a preference to continuous gum work; his confidence increased the

longer he used it, and had no difficulty in obtaining perfect fits.

Dr. Franklin said, the relative value of different kinds of work can only be determined by the amount of good that can be accomplished. His own preference was for vulcanite, and time had proven its purity and indestructibility. The vulcanite work had the same difficulties to contend with in the beginning that continuous gum work had, viz., from the worthless gum palmed off on the profession and public, and the ignorance of the proper vulcanization. The object of many was to vulcanize in too short a time, which, at the high heat necessary, would spoil the gum. Thought the adaptation of plates excelled all others, though care was necessary to attain perfect results.

Dr. White said, not having had time to experiment with it himself, he had concluded to wait until the article had been perfected, but for the last two or three years had thought favorably of it. The great difficulty, in all these materials,

is, that the inventors claim too much for them.

Dr. ATKINSON said, we all have a prejudice against new things, but that the statistics of success could be the only sure guide to determine which was the best; therefore, as these cannot be obtained, we shall still be in the dark. For entire dentures, he considered the continuous gum on a platina base unparalleled. In the vast majority of cases, vulcanite, its price considered, stands as unparalleled. For under sets, he thought nothing so good as rubber. For upper partial sets, he preferred gold. For entire sets, with "plumpers," as they are termed, he preferred continuous gum, and next rubber.

Dr. Allen said, platina plates, after being struck up, should be placed in acid before being subjected to heat. If this is not done, the foreign metals, which have incorporated themselves in the platina, will give it a rough and dark appearance.

Dr. SEARLE referred to an interesting case, where he could get no adhesion of the plate to the roof of the mouth. Succeeded in so doing by fitting an oiled silk valve to the air

chamber.

Miscellaneous subjects being taken up, a discussion ensued, whether the weight of a set of teeth was a disadvantage. Drs. White, Burras, Allen and Franklin concurred in saying that it was not a drawback.

Dr. Butler referred to the importance of properly select-

ing teeth.

Dr. CROSSETT, at the request of many members, addressed the Convention. He said he came from California to receive. rather than impart instruction, and had derived benefit sufficient to repay him for coming. If agreeable, he would give a short description of the progress of dentistry in his own State. When he went there, the profession generally were using quartz fillings and other materials where gold should have been introduced, but now a better practice was being adopted, and all base articles were confined to their appropriate places. There exists at this time a prejudice against the use of vulcanite, and but two individuals use continuous gum work.

On motion, a vote of thanks was tendered to Prof. Barker for the interest he had added to the session. Also to the press of New Haven, and especially the Journal and Courier.

which gave an interesting report of each session.

The hour (six o'clock) having arrived for which the hall was rented to other parties, the President, after a few congratulatory remarks, put the question for final adjournment. and with seeming reluctance the Convention adjourned sine die.

It would be unjust were we not to state that our report fails to do credit to many of the most interesting discussions of the Convention, several of which were of a conversational character, and could not be reported. The uniform attendance and interest on the part of the members, and particularly of the ladies, was deserving of great praise, and contributed much to its happy character. The place selected (New Haven) was, we think, unexceptionably the very best that could have been chosen, as the kindness received by the members of the Convention, both from those of our own and other professions, will attest. - Dental Cosmos.

## Selections.

A NEW ANESTHETIC—KEROSOLENE.—At the meeting of the Boston Society for Medical Improvement, held on Monday evening last, a liquid bearing the above name, and suspected of possessing anæsthetic properties, was presented by Dr. Bowditch, from Mr. Merrill, and by a vote the Hospital Surgeons, with Dr. Bacon, were requested to test its powers, and Dr. H. J. Bigelow was requested to make a subsequent report upon the subject to the Society. As some time must elapse before such a report can be made, Dr. Bigelow has, at our request, furnished us the following statement of his experience of its powers up to the present time.—Boston Medical and Surgical Journal.

Messrs. Editors:—In reply to your request for information concerning the "kerosolene," and although the evidence is incomplete, I see no impropriety in my furnishing you with such observations as I have been able to make since its introduction to the Medical Society last evening, by Mr. Merrill, Dr. Dickinson and Dr. Bowditch, as an untried agent of suspected anæsthetic properties, which had accidentally affected a man sent in to clean a cistern at the kerosene works, and which had been afterward tried on flies and mice.

This fluid presents remarkable properties. It is tasteless as water, volatile and inflammable as ether, though burning with a dense white light; of a faint chloroform odor, which, as it evaporates, changes to that of coal tar, and then disappears absolutely and altogether; so that a handkerchief saturated with the fluid has, at the end of a few minutes, when dry, no odor at all, nor has the room or atmosphere where it has been used, any trace of its presence. Both ether and chloroform leave, in different degrees, a persistent, fade and stale aroma after evaporation, as is well known. They are also far less agreeable to inhale than this new agent, which has thus an obvious advantage over either of them.

A few whiffs were sufficient assurance of its efficacy as an anæsthetic, which, with its other qualities, as I ventured to remark, would place the kerosolene beyond any known anæsthetic, provided its use was not followed by headache, vertigo or other unpleasant symptoms, and provided it should prove as free from danger as ether.

Subsequently, I inhaled the new vapor, which Dr. Hodges at my request administered. Complete insensibility supervened, lasting several minutes, with some diminution of the volume of the pulse. Its effect was wholly agreeable, leaving

neither headache nor nausea, nor bad taste.

I have this morning administered it to three surgical patients. The first, a girl of 19, presenting some hysteric tendencies, having thrust some twenty needles in her leg, was wholly insensible during the extraction of four of those which remained. Yet there was more cough than I had expected from the wholly unirritating odor of the vapor, more muscular rigor than usual in favorable anæsthesia, and more inter-

mittence of the pulse.

In a second patient, to whom it was given preparatory to an operation upon the face, insensibility was equally complete. But this woman did not take it kindly, and its complete effect was attended by so feeble and intermittent a pulse as to lead me to desist until she had recovered. A second attempt reproduced, with anæsthesia, the feeble and intermittent pulse, and I again desisted. Upon her recovery, I gave her common ether vapor, which she afterward said was less agreeable, but which was followed by complete insensibility, the pulse beating steadily and full, at 76. Though this patient, perhaps, succumbed more readily to a third anæsthesia, there seemed to be in the two first trials a certain degree of purple color and asphyxia, with its attendant spasm, which I have elsewhere described as an occasional and disagreeable symptom of attempted anæsthesia. To guard against this asphyxia, which might possibly have resulted from the folded towel, upon which I habitually administer ether, I tried in the next case an open sponge. The subject required a considerable incision for a mammary abscess, and was a patient of Dr. H. G. Clark, with whose assent I tried the kerosolene. In spite of the open sponge, the symptoms of asphyxia again appeared, suggesting to Dr. Clark, before operating, their resemblance to those resulting from charcoal gas. The color was livid, and the rigidity marked. In each of those cases, the quantity used was from one to two ounces.

In conclusion, it may be remarked of these three cases, that they are insufficient for satisfactory demonstration, and that their common and unfavorable symptoms may well have been but a coincidence; yet they suggest some caution in the use of the kerosolene vapor. It is probably more potent than

that of ether, requires a free admixture of air, and may produce upon the system some impression or influence, other than that of the mere intoxication attendant upon the use of In awaiting further evidence, it may be considered established that kerosolene is an anæsthetic of undoubted efficiency, and that it possesses certain remarkable and attrace tive properties peculiar to itself.

Boston, July 9th, 1861. H. J. BIGELOW, M. D.

NEW ANÆSTHETICS-THEORY OF THEIR ACTION.-The following letter is of interest at the present time, in connection with the new anæsthetic announced in our last:

Messrs. Editors: - Substitutes for ether, as anæsthetic agents, are frequently proposed, and some of them have been practically introduced, with some success. None, however, surpass ether in the two most important qualities of efficiency and safety, and there can be no doubt that with respect to safety, ether is far preferable to any and all anæsthetics thus far discovered.

It may prove interesting to the profession, to inquire into the mode of action of the class of bodies known to produce anæsthesia, when inhaled. This subject has been very carefully studied by me from the outset of anæsthetic practice, and with a view to the discovery of some general law.

The first impression among physicians was that the anæs-

thetic state was merely one of temporary intoxication.

Secondly, the theory of high excitement, followed by corresponding collapse, accounted for the phenomena. Dr. Jno. C. Warren took, at one time, this view of the matter, and spoke of etherization as "devouring the sensibility by high stimulation, and hence a corresponding nervous depression,' which was the anæsthetic state. Others have supposed that etherization produced a partial asphyxia; hence the expression early made use of by some of our surgeons, that there was "little difference between hanging, drowning and etherizing."

It has also been alleged that ether absorbed into the sanguineous circulation affects directly the nervous filaments, either at their origin in the medulla spinalis, or in their distributed extremities, or in both these parts. In support of this allegation, it was cited that the direct application of ether to an exposed nerve destroyed its sensibility. By the italization of that word, I call attention to the difference between the anæsthetic state of temporary suspension of sensibility, and the destruction of it; for the nerve acted upon directly by ether, does not recover its powers, but is permanently

paralyzed.

Another state of the circulation has been observed, which it was hoped would give some clue to the action of anæsthetic agents, namely, that of slackening, and even temporarily wholly suspending the circulation of blood in the capillary or extreme vessels. It was supposed that by thus cutting off a supply of circulating blood stimulus to the sentient extremities of the nerves, sensation was temporarily suspended. The commencement of insensibility in the remote extremities, the feet, legs and hands, seems to indicate that sensation was suspended at those points first.

The French physiologists, Flourens and Longet, are of opinion that the effects of anæsthetics commence, and primarily act on the great nervous centers, the medulla spinalis and medulla oblongata; and that if the full effect reaches the bulb of the medulla, death will take place from total suspen-

sion of all the vital functions of the body.

A more chemical explanation of the action of anæsthetics is that they all abstract oxygen from the blood, and hence reduce its peculiar stimulating powers on the nerves, and that some of them leave poisonous products, while those left by others are innocuous. Thus, as we have formerly stated, chloroform or the ter-chloride of formyl abstracts three equivalents of oxygen from the blood, but, at the same time, unfortunately it deposits, in exchange for the oxygen, three equivalents of chlorine.

Bi-sulphide of carbon, one of the most terrible anæsthetics ever proposed, the dangerous effects of which I have experienced, and have warned the public about seasonably, acts as a powerful de oxidizer of the blood, both the carbon and the sulphur abstracting oxygen, the first producing carbonic oxide or carbonic acid, while the latter forms sulphurous acid. Carbonic oxide and sulphurous acid are poisons, as is also chlorine, before mentioned.

All the acidiferous ethers when decomposed, as they are, in the organs of respiration and circulation, leave their acids in combination with the blood; hence, nitrous and nitric ether are known to destroy life, and hydro-chloric ether and chloride of hydro-carbon undoubtedly act in the same way, and

injure the quality of the blood. Acetic ether is not objectionable, since an organic acid is easily decomposed in the processes of respiration, and is removed in the form of carbonic acid and vapor of water, usual products of normal res-

piration.

Sulphuric ether, as it is improperly called, since it does not contain any sulphuric acid, is a pure hydro-carbon, with one equivalent of oxygen=C<sub>4</sub> H<sub>5</sub> O. When decomposed by the action of the blood, it may be converted into aldehyde, acetic acid, and lastly into carbonic acid and water, no fixed product remaining in the blood, but all able to be removed by respiratory action. The odor of the breath of a patient who has been etherized, shows that there are exhaled the oxidized products of the ether, and it is known by analysis that a much larger proportion of carbonic acid is exhaled from the lungs during the etherized state, than in the normal condition

of the system.

Without finally adopting any theory of the chemical and physiological action of anæsthetics generally, we may, perhaps, be a lowed to call attention to a general law, namely, that all very volatile hydro-carbons act as anæsthetics like the others. Thus, it has long been known that benzine, benzole, oil of turpentine, naptha, when inhaled, will all produce the anæsthetic state. The highly volatile oils of coal tar, likewise, possess anæsthetic properties, and one which has recently been tested in surgical practice, known as keroselene, a highly volatile naphtha, seems to be the least offensive of them. It is evidently a very pure hydro-carbon, analogous to highly rectified naptha, and does not contain any oxygen, as is proved by its property of preserving potassium from oxidation, when it is immersed in it. The first samples of keroselene which I tested, two years ago, proved quite irritating to the organs of respiration, but I have learned recently that a purer and more volatile product has been made at Mr. Downer's works, though I have had no opportunity of testing it practically.

It is obvious that there are two or more volatile oils in the keroselene of commerce, and they are separable by graduated distillation. Some care, therefore, is requisite in the preparation of an uniform product; one which may be properly the subject of experiments by inhalation. I would observe that

no analysis has yet been made of the keroselene oils.

CHARLES T. JACKSON, M. D. [Boston Medical and Surgical Journal.

# Editorial.

#### TEMPORAL ECONOMY.

A BROTHER of the Cosmos trio doesn't want us to fool away our time; and he thinks we did it in trying to straighten up himself and his brethren of the Pennsylvania Association on the amalgam question. But, then, as we intimated at the outset, we had no hope or intention of converting them. We regarded them as Ephraimites—joined to their idols, the said idols being tin, silver and mercury, an unholy trinity of three metals in one cement, the workmanship of their own hands.

We are solemnly told that "no amount of invective or ridicule, emanating from whatever source it may, can influence their views, or deter them from giving utterance to their honest convictions," which is probably all true, especially as it is not likely that either invective or ridicule has been, or will be used by any one for the purpose of interfering with the aforesaid utterance; and it is probably quite as true that no amount of whining, "emanating from whatever source it may," will deter us from a kindly criticism of these same utterances, when we think the interests of our profession require it.

The editor copies one of our articles on the "Amalgam Question," (for which we thank him; for it is a pretty good article—perhaps, the best of the series) with the editorial preface that it "is one well worthy of careful perusal; but in presenting it, we can not refrain from indulging an expression of regret that one who is so capable of adding to the knowledge of others, particularly in a field so little cultivated as dental chemistry, should be willing to waste so much valuable time in a direction which neither tends to the advancement of himself or others. This is said with all sincerity and kindness," etc.

Now, this is rather complimentary; and we, too, feel how little the "field of dental chemistry" is cultivated, and, therefore, regret all the more to see those who are "so capable of adding to the knowledge of others" in other fields, bestrewing this one with brush and rubbish, that must be cleared off before it can be successfully cultivated. The most arduous labor of the teacher is, often, to unteach that which has been taught amiss. Those who defile the land should not default the husbandman for expending toil in purifying it which would, otherwise, have been spent in the production of a new crop. We would be glad to have nothing to do but to search for new truths, and we are happy when able to suggest new applications for old ones; but when error is promulgated from high places, we have a duty to perform.

As to the "sincerity and kindness" of our friend, it was not necessary to mention them. We would have given him full credit for both without. We take it for granted that our editorial brethren are sincere; and we know they are kind. All we regret is that our sincerity and kindness, as genuine, we hope, as our brother's, are mistaken for "invective and ridicule." W.

#### BLEACHING.

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WE are glad to see that the subject of bleaching teeth occupied, to a good extent, the attention of the late Convention at New Haven. It is an important and intricate subject; and that it is beginning to elicit the attention of the profession is evidence of progress. We are aware that individuals have given the matter some care; but, as a profession we certainly do not understand the subject.

In looking at this subject, the first inquiry ought to be the chemical characteristics of the coloring materials that are to be decomposed. Without, at least, some general knowledge in this direction, all our efforts will be empirical. Now, it may be sufficient, for our present purpose, to state that most, if not all, of the coloring matters which concern the dentist, are organic compounds. Most of them contain carbon, hydrogen, oxygen and nitrogen. And, it is scarcely necessary to remark that their color is dependent on their composition. If one of their elements be removed, or if their proportion be much varied, the color will be changed or obliterated.

The object to be aimed at in bleaching, then, is to decompose

the coloring compound, by some agent or agents for which one or more of its elements have a strong affinity. Of course, the agent of decomposition must have an affinity, for at least one element of the coloring compound, stronger than that by which it is held in the compound.

Bearing these things in mind, we can understand the action of some of the best known bleaching agents.

Sulphurous acid, (SO2) which is always formed when sulphur is burned, and is commonly called sulphur smoke, has a powerful affinity for oxygen, and usually bleaches by taking that element from the coloring compound. This acid is extensively used by bleachers of straw millinery.

Chlorine, which has been termed "the great bleaching agent," as is well known, has a strong affinity for hydrogen, and sometimes bleaches by taking this element from the coloring compound, and sometimes by taking hydrogen from the water present, thus liberating the oxygen, which in its nascent state, is able to decompose the coloring matter by taking its hydrogen and carbon. In many instances of chlorine bleaching, these processes take place simultaneously, and are not in the least incompatible with each other.

Oxygen, as it exists in the atmosphere, sometimes bleaches, (and sometimes dyes,) by virtue of its affinity for elements or compounds contained in the colored matter.

Cyanide of potassium, as recommended in the September number of the Cosmos, by Dr. Kingsbury, bleaches by virtue of the affinity of its cyanogen for hydrogen. Cyanide of potassium is readily decomposed. Its solution undergoes "spontaneous decomposition," even in closed vessels. Its cyanogen, with the energy incident to the nascent state, is able to remove hydrogen from almost any organic compound. Its mode of bleaching is exactly the same as that of chlorine.

Dr. K's caution in regard to the poisonous properties of the cyanide are worthy of attention; and the Dr., as well as all others, should know that it bleaches only by forming hydrocyanic acid, the most deadly poison known.

But it is not our intention to write an essay on the subject of bleaching now and here. We set out merely to tell how glad we are that the subject is eliciting increased attention. W.

#### POSTPONEMENT.

The session of the Ohio College of Dental Surgery, for the coming winter has been postponed. At a recent meeting of the faculty, it was thought best, after duly considering the subject, to pursue that course. The upbroken condition in which all things are, seem to warrant the conclusion, that the class would be very small. The members of the faculty expressed a willingness to devote their time, but not time and money both, to the institution, especially in such times of pecuniary disaster as the present.

T.

#### PERSONAL.

DOCTOR B. WOOD, late editor of the Southern Journal of Medical and Physical Sciences, Nashville, Tenn., has located in Indianapolis, Ind., where we hope he will meet with the patronage which he merits; he will want no more. The readers of the Register are familiar with the name of Dr. Wood. His pen is a pointed one; and we hope it will not forget its old haunts, the pages of the Register.

Dr. C. R. Taft, of Mansfield, O., brother of our "T.," is on his way on a visit to Kentucky. He is dressed in blue, and ranks as Adjutant of the 15th Ohio Regiment. Go in, CAL., you'll win.

#### TRICKS OF THE TYPES.

WE don't like to complain of the types, especially as we do not write as legibly as we once did. But, reader, we didn't make a "conical," but a crucial incision in that tumor we told you about, which closed the outlet of the parotid duct. And now, allow us to tell you that no further treatment proved necessary in that case. The recovery seems to be perfect.

And we didn't intend to say, in the September number, that the "invention" of pivot teeth is mechanical, but rather regarded the *insertion* of them as somewhat so. Being rather isolated, we don't always see our "proof," and will, therefore, not fret.

W.

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#### DISEASED ANTRUM.

Mr. M—, with diseased antrum, whose case is described in the January number of the Register, p. 62, called for treatment again, September 18th, almost one year from the time the operation was first performed; the disease has continued, though with some abatement to the present time. The perforation into the antrum was kept open until within about one month, by wearing a wooden stopple in it. The second molar was crowded very much forward by the irruption of the wisdom tooth; by this means and persistent granulation the opening was closed; the discharge from the antrum was through the nostril; the discharge was a thick purulent matter and exceedingly fetid; it was far less in amount than a year ago, thicker and about the same in fetor.

We deemed it necessary again to make an opening into the antrum, and at the same point as before. A piece of gum some three lines in diameter was dissected between the bicuspid and second molar, then with medium sized trocar pierced the floor of the antrum, there was little or no discharge of pus, then syringed out effectually with warm water and tincture of arnica, directed gutta percha to be used as a stopple instead of wood as before.

At the suggestion of Dr. W. H. Mussey, I prescribed simple tincture of benzoin as a wash with which to inject the cavity, and five grains of iodide of potassa to be taken internally three times a day. Requested the patient to pursue that course which would procure the best passible state of health.

The general health of the patient is much better than it was a year ago, and upon this fact doubtless, the improved state of the antrum very much depends. He has been in camp about two months, and thinks his improvement was much more rapid than before.

This is one of the most obstinate cases of disease of the antrum with which we have met; there seems to be no cachectic condition upon which it can depend. The general health was good previous to its occurrence, and was only enfeebled by and in correspondence with this affection, at least this seemed to be the case; it is much less painful now than a year ago. We shall record from time to time the condition and treatment.

#### A MODEL PATIENT.

Miss C— has been a patient of ours about four years, her teeth are of rather frail texture, and in fine condition for that class of teeth. She exercises the most scrupulous care of them, and does not permit a particle of stain or deposit to remain upon them; she has ten or twelve teeth filled, all small fillings. In all the fillings made in the last two years, she first detected the cavities, though they were small; she has in three or four instances detected minute decays on the proximal surfaces of the teeth where they stood in contact, and separated them with cotton sufficient to be filled conveniently, and had them ready to fill when we first saw them. She understands perfectly the importance of attention to incipient decay, and acts promptly upon that knowledge. How glorious to be a dentist, with five hundred such patients.

T.

HEMORRHAGE.

Dr. H. Collins says, that for the treatment of hemorrhage after the extraction of teeth, he uses Plaster Paris, mixed as usual, with some fibres of cotton or flax worked into it; then when it is of the proper consistence plug up the socket with it, and the hemorrhage will at once be arrested. He says no styptic is required with it.

T.

#### WOOD FOR FINISHING FILLINGS.

At the suggestion of Dr. Allport, we have recently been using small rods of box wood; such as used by watchmakers, for a vehicle for polishing material, such as pumice, etc., for finishing fillings and for wedging between the teeth while filling. The wood is of a very fine and close texture, and yet soft; it has not the hard, unyielding texture of hickory, and yet it is sufficiently hard for the purpose.

The wood is obtainable in bundles of rods wherever watchmakers' tools are sold. It may be cut into any desired form for polishing. The depots will furnish it.

T.

#### THE

# DENTAL REGISTER OF THE WEST.

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[No. 11.

# Original Essays and Communications.

ALLOYS FOR DIE-METAL, ETC.

BY DR. B. WOOD.

For getting up metallic castings, I used, during the first few years of my practice, almost exclusively, an alloy of lead, tin and bismuth, as prepared by my preceptor and brother, Dr. J. S. Wood, to-wit:

For the die, or east,—Tin 8 parts, lead 1 part, bismuth 1 part. This compound is much harder than tin, melts at a lower heat, shrinks little, or practically none, in casting, is tough and strong. It melts at about 330° F. Although generally using a harder and less fusile metal for the first swaging, I find this alloy particularly convenient for taking duplicate dies for finishing. Its tenacity adapts it to cases where teeth are to be represented on the die.

The counter-die, or mould metal, is made by adding to one part of this mixture six parts of lead. The result is harder than lead, and does not yield like it under the blow, presenting a resistance sufficient to drive the plate up well against the die. Its shrinkage is but slight. It melts at, say 450° to 460° F. It is designed for use when the dipping process is resorted to. If used at the point of congelation, the plaster cast may be immersed without previous baking, otherwise it should be baked to expel water of crystallization. I fre-

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quently place the cast in the metal in a flask for the purpose, then heat the whole again until the cast melts loose, then remove from the fire, pressing it down to its place, and retaining it there by means of a weight on the top, until cool.

I shall now confine myself simply to a description of some of the alloys that I have prepared and found most generally useful, not stopping to speak of those recommended by others—my experiments having had reference to the qualities of hardness, tenacity and fusibility, and the susceptibility of forming perfect castings.

The following formula affords a highly useful alloy, where

toughness, as well as hardness, is essential;

Tin 16 parts; antimony 1 part; zinc 1 part.

This alloy is much harder than the preceding die-metal, and equals it in tenacity, being suited for any kind of die; it requires a higher temperature for fusion; but it melts sooner than tin, or than the mould-metal above named-from a matrix of which a die may be taken by it with safety. It affords in sand a perfect die, does not shrink, and, whether poured into a sand or metal mould, comes out with a bright, smooth face. It is the best combination of these three metals I was able to produce for the purpose. When, with a view to greater hardness, antimony and zinc were employed in larger proportion; the die cast in sand came out imperfect, presenting fissures, pits or concavities at the point corresponding to the palatine fossa. If tin be used in larger quantity, the alloy is, proportionably softer, and there is corresponding shrinkage, The relation of zinc and antimony in respect to each other may be somewhat varied without sensible modification of the qualities of the compound, but for the best results, the sum of these two metals should hold to the quantity of tin employed the ratio of about one to eight.

This alloy melts readily enough for use with the mould metal as above mentioned. But when dies are first taken with it, a suitable alloy for taking counter-dies from them is obtained by a combination of 5 parts of lead, 2 of bismuth, and 1 of tin; or, & parts lead, 3 or 4 of bismuth, and 1 of tin, will be still more fusible, although harder.

A very hard and most valuable alloy for general use may be had by the use of copper, antimony and tin, to-wit:

Tin 12 parts; antimony 2 parts; copper 1 part.

It is not far below zinc in hardness, casts without sensible shrinkage, and makes a perfect and very handsome dic, bright and smooth. It is less fusible than the die metal last named, but may be used for taking a die from the first mentioned mould metal, although, melting at nearly the same temperature, this requires care. It will be found of value in connection with lead moulds made by "dipping." It is rather brittle for dies for partial sets representing the teeth, as these are liable to break in removing from the matrix, but it is strong enough for swaging purposes.

A still harder alloy is obtained by using 8 parts of tin, 1 part of copper, and 1 part of antimony. This possesses the general properties of the preceding, but is harder to melt and less fluid when melted, and in cooling, crystallization takes place on the surface, roughening the face of the die somewhat to its detriment.

For fluidity, an excess of antimony over copper appears to be requisite. For preventing shrinkage, the joint amount of antimony and copper should be to the tin in the ratio of about one to four;—as for example, 8 parts tin, 1 antimony, 1 copper; or 10 tin,  $1\frac{1}{2}$  antimony, 1 copper; or 12 tin, 2 antimony, 1 copper.

In combining these metals (which may be done in an ordinary charcoal furnace, as it is by no means requisite to have a temperature capable of melting copper), place the copper in a crucible and bring it to a red heat, then pour in the tin and antimony in a melted state, and cover the whole with charcoal dust to prevent oxidation. The copper will soon liquify, or dissolve as it were, and combine perfectly with the other metals without further elevation of temperature. To guard better against volatilization of antimony, which takes place

at a high heat, it is well enough to add to the copper at first but half the tin, and when these are combined, add the antimony, and then the remaining tin. This also enables one to conduct the second melting in a larger crucible, or indeed in an iron ladle.

For taking counter-dies, or moulds from dies of the last named alloys, a suitable metal, fusible at about 380° F., is had by a mixture of three parts of lead, one part of bismuth, and one hundreth, or less, part of tin. It is wonderful how small a quantity of tin serves to improve the alloys of lead and bismuth, giving them a white, clear lustre, preventing oxidation, promoting fusibility, in short, producing almost a new metal.

By the use of cadmium, we may produce still harder alloys than any of the preceding, possessing in an equal degree every other desirable quality. Thus, 10 parts of tin, 1 part of antimony, 1 part of copper, and 1 part of cadmium produces a compound which has about the hardness of zinc, it casts perfectly, and is nearly all that could be desired, except that, like the last named die metals, it is rather brittle for certain castings, as in the cases before referred to.

Substituted for copper in these combinations, cadmium appears to confer greater hardness and tenacity, (using the latter word in the sense of toughness) and up to a certain point, promotes fusibility.

9 parts of tin, 1 part of antimony, and 1 part of cadmium furnish a very hard and tough metal of a compact, homogeneous structure, which casts without shrinkage, forming a perfect die, with a smooth, bright face. It melts at about the melting point of tin.

In the employment of cadmium, care must be taken not to subject it to a heat high enough to volatalize it. To avoid this danger, it is best to unite the other metals first, and then add the cadmium at a heat barely sufficient to melt it. The great objection to the use of this metal is its expensiveness.

A variety of other forms of alloys might be given, some of

which, doubtless, would prove useful in special cases, but those given are best adapted to general use, and further than this does not come within the intention of the present writing. Should the results here presented prove of benefit to any in the profession, I shall feel well paid, especially in the assurance that this subject happens to be not one likely to awaken hostility as involving facts in conflict with cherished interests, practices and inclinations; whereas, when touching upon rival modes of practice, a plain record of facts—not swerving from the rigid truth to conciliate interested or prejudiced parties, not taking a middle course between right and wrong, to win the credit of "impartiality"—is too apt to provoke from some source, directly or indirectly, the imputation of "unfairness"—which is rather "poor pay" for one's pains.

INDIANAPOLIS, OCT., 1861.

### REVIEW OF WHO ARE DENTISTS.

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BY J. ALLEN, D. D. S.

[Continued from the August Number of the Dental Register.]

Desirous of correcting error in dental theory or practice, the writer will notice a few more points under the head of Who are Dentists, by Dr. Wm. A. Pease, as published in the Dental Register of the West. In referring to the different modes and materials employed for inserting artificial teeth, he presents what he conceives to be the merits and demerits of the various materials used as a base for that purpose, and his conclusions are that single gum teeth well mounted upon gold plate make the best practical artificial dentures that have yet been devised.

Although there are those who differ with him on this point, it is not proposed to discuss the question in this article, but simply give his own statements with reference to this (best) mode of setting artificial teeth; for his alternate views present all that need be said pro or con. In support of this style of work, he says: "It is not surprising that a metal so

beautiful as gold, so incorruptible and plastic, and one withal of so great intrinsic value, should be considered almost instinctively by the profession and the community as one eminently suitable to be a base for artificial teeth. Alloyed and adulterated as it often has been, until it was sometimes difficult to determine whether it predominated over a mixture of silver and copper, it has nevertheless maintained its position in the professional and popular estimation, and it is believed that single gum teeth, well mounted upon gold plate, make the best practical artificial dentures that have yet been devised."

On the next page but one he spoils his golden picture by the following contra sentence: "A set of artificial teeth is a piece of mechanism—nothing more. It is made of light, frail and fracturable materials, and it is believed that the average duration of sets of artificial teeth will not exceed six years, while many of them are a constant source of trouble and expense from the first."

If this be true, it is certainly high time that a better method should be adopted. In reference to those who insert them, it will be recollected that Dr. Pease draws a line of distinction between those who operate upon the natural teeth and they who insert artificial ones. The one he calls dentists, and says "they are governed by the rules of a profession." The other, he states, "never rises above the customs of a craft or trade." Again, he says on page 292 Dental Register: "The country is now full of dental mechanics, and the facility with which they are manufactured in the laboratory, and the mistaken idea that dentistry affords lucrative employment is fast increasing the number; men are wanted in all the principal offices in the country to do the office drudgery, and make artificial sets of teeth." Now there are those who do not see this line of distinction as the Doctor does, and they say there are as many failures among those who operate upon the natural teeth, as there are with those who insert artificial ones, but the operations of the former are less conspicuous, and attract but little attention, while an artificial denture forms an important feature of the face, and is more noticeable. Incompetency on the part of those employed, in either branch, will defeat good practical results.

Again, referring to this (best) method, in comparison with continuous gum work, he loses sight of his sweeping denunciations against all who insert artificial teeth, and says on page 297, that "that kind of artificial teeth that can be made, and easily and cheaply repaired by all dentists, not only of a particular locality, but by all dentists of the country, is the safest, and therefore the most desirable and valuable."

"Such are those mounted on gold and silver; such are not those mounted on other materials, as they require a peculiar apparatus for their construction and repair, not used for other materials."

This universal method, which is adapted to the capacity of all dentists, he here recommends, although denounced in his preceding sentences, together with all those who construct them. Such incongruities are hard to reconcile, although he has endeavored to clothe them with plausible arguments. Still the coverings do not hide the apparent inconsistencies. These constitute one of the errors in his elaborate articles upon this subject.

Another error consists in attempting to depreciate an important branch of our profession, and of speaking disparagingly of all who practice in this branch; for no good can result from such a course.

Another was in not confining himself to the question (who are dentists) and defining what constitutes a dentist, which he has not done, only in part.

Another occurs in commending his universality system, which he says "is the most desirable and valuable," because all dentists can make and repair this kind of work, which is made on gold and silver. Here, again, he seems to have forgotten what he had before stated, that these (all) dentists are not dentists, but mere mechanics, of which "the country is

now full," and he seems also to have forgotten the miserable description he gave of their work in the April No. of the Dental Register. It is an old saying that "consistency is a jewel," but all do not see it.

Again his universality system is wrong, for it would tend to retard further advancement in dental science. According to this doctrine, no one must go forward, however emulous to excel in his profession, because all others would not advance simultaneously with him; he must keep back and do the same style of work that every body else does, or be charged with a wrong, for departing from the old beaten track, although he might attain a better result by so doing.

But the Doctor says "a piece of mechanism, however valuable it may be, loses much of its value, if the means of repair are not always at hand." As well might it be said that the old mode of propelling boats was better than by steam power, because the means of repairing an engine were not always at hand, and the same may be said of any other improvement that has ever been made.

He is also cherishing an erroneous idea upon the subject of suction plates. He says that "the weight of a set of teeth, and the pressure upon it during mastication have to be sustained by the tender mucous membrane of the roof of the mouth, and is to that extent a constant and unnatural tax upon it, during life. Hence the lighter the material, the less is the strain or tax." There are also many others who entertain similar views, and they appear very plausible in the absence of facts. Now, we are all liable to err in theory, and in judgment, but in demonstration never. The facts do not sustain this theory; a few pennyweights, more or less, in the weight of a set of teeth is not appreciable when in the mouth of the wearer, if the plate is properly fitted, for it will require at least twenty pounds beside the weight of the denture to dislodge it.

A plate well fitted to the mouth simply displaces the atmosphere from the membranous surface which it covers, and becomes an intervening substance between the atmosphere and the roof of the mouth; the atmospheric pressure then rests upon the artificial instead of the natural surface; but the pressure is no greater when resting upon the one than the other.

Again, when the atmospheric pressure is upon only one side of the plate in this manner, it overcomes the laws of gravitation, consequently there is no weight or tax upon the roof of the mouth. The same principle is easily demonstrated with other substances. Let two plates of glass be fitted so accurately as to expel all the air from between them, and it will be found that the atmospheric pressure upon the external surfaces will hold them firmly together; here there is no delicate membrane to sustain the weight or pressure.

The writer does not claim to be a lexicographer, but if he should attempt to define the legitimate sphere of a dentist, he would accord to him a more extended field of labor than merely operating upon the natural teeth; he would also embrace all other operations which require surgical skill, and therapeutic treatment, which often requires a high order of talent, not excelled, perhaps, in any other profession, for complicated diseases connected with the teeth, jaws, bones of the face, and surrounding tissues, are often met with in dental practice, which require the best professional skill to overcome. He would also embrace all other operations that pertain to the artificial branch of dental science.

If a denture is to be inserted, the operator should possess artistic conception and harmonious execution, in order to adapt the shades, form, size, length and position of the teeth to the mouth, so as to produce perfect harmony with the other features of the patient, and also restore the original form and expression of the mouth and face. These essentials require well developed powers of mechanism, that the designs may be properly executed, however difficult to accomplish.

The foregoing form the chief qualifications of the gentlemanly dentist who is to preside over the whole field of dental practice.

#### AMERICAN DENTAL CONVENTION.

#### SEVENTH ANNUAL MEETING.

THOUGH headed as above, it is no part of the plan of this article to notice the Convention, as such, for we were not there; nor to review its proceedings, for we can not ascertain fully what they were. But there are, in some of the Journals, reports of the sayings and doings of the late meeting; and, for reasons satisfactory to ourselves, we propose to say a little in regard to these sayings and doings, and will take the report of the Cosmos as our guide, presuming it to be at least as reliable as any other.

It appears that near seventy dentists enrolled their names on the Treasurer's list, which is quite encouraging, in the present state of our affairs. Still, we are not quite prepared to indorse the statement of Dr. J. D. White, that "Never before, perhaps, did so large a body of men assemble together and discuss the various topics of their profession or pursuit with so much good feeling toward each other;" and if Dr. W. had attended all the meetings of the Convention, he would have seen larger bodies of men manifesting quite as much good feeling as was possible at New Haven.

The old question relative to the admission of members was revived. It is, indeed, a ghost that refuses to be laid, but it is now, we hope, quieted by the adoption of a constitution. The proceeding, as reported, was the appointment of a committee to "revise" the constitution; but, unless we are mistaken, there was no constitution to revise. At its first organization, the Convention adopted a constitution, which was afterward totally set aside; and we have no recollection of another being adopted in its place.

The first subject for general discussion was Professional Etiquette; and after some pointed remarks in reference to its importance by Dr. Whitney, all of which will be fully indorsed by the profession, Dr. Atkinson set forth the "golden rule" as the only safe and infallible guide in regard

to the subject. This rule properly interpreted, will answer for all the departments of this life, certainly, and is not likely to go into disrepute, even in the life to come. But from some of the succeeding remarks on this rule in endeavors to prove its insufficiency, we are almost forced to conclude that there is a misconception, or difference of opinion as to what the rule is. One speaker, world renowned at that, thinks the golden rule would "not in all cases answer in this matter of etiquette," and gives in illustration, a case of neuralgia, in which a physician and dentist are separately consulted, and give diverse opinions, the conduct of the latter being wrong, because he did not ascertain that the other had been consulted, and advise with him. Now if there is any law on earth that would require the course suggested, it is the "golden rule."

Another, Dr. J., regarded the golden rule as "one of great beauty, but thought there were circumstances in which it would not apply." He, accordingly, suggests, as a substitute, uniform "kindness," and strict "justice."

We take it for granted that Dr. A., in referring to the "golden rule" intended that saying of our Savior recorded in Matt. vii. 12; and, if this was the understanding of all, how is it possible that Drs. H. and J. failed to see its nice adaptation to the cases supposed by them in endeavoring to prove its inapplicability? Does the golden rule not require "kindness" and "justice?" The Savior gives it as a summary of moral duty. "This is the law and the prophets." Does the law—Gcd's moral code—not enjoin kindness and justice? Would the "law and the prophets" fail to teach the physician and dentist how to act in the case supposed by Dr. H.? Just here we referred to the nucleus of our library—the first volume we ever owned—and there we find the "golden rule" paraphrased as follows:—

<sup>&</sup>quot;Be you to others kind and true,
As you'd have others be to you;
And neither do nor say to men
Whate'er you would not take again."

The book is called the "New England Primer." Its authorship is unknown to us; but when the martyr, John Rogers, the hero of the "nine small children. and one at the breast," whose fire and fagots horrified its pages, said

"I leave you here a little book For you to look upon."

In our childish innocence we regarded our "Primer" as the identical "little book," and have, accordingly, kept it, that we might "look upon" it, ever since. And though

"It was a childish ignorance,
Yet now 'tis little joy
To know ——— "

We were mistaken; but we never knew any one who followed the text or the paraphrase, who was chargeable with violation of etiquette. The man who obeys this rule, in his intercourse with society, is a perfect gentleman; and when a better guide, in etiquette, is devised, we may look for the discovery of a better illuminator than the sun. The many abortions in the shape of proposed codes of ethics in other professions, even more than in our own, when all that is required is simply to be decent, make us think

"How well it is the sun and moon
Are placed so very high
That no presuming hand can reach
To pluck them from the sky!
Were it not so, I do believe
That some reforming ass
Would soon attempt to take them down,
And light the world with gas."

The President read a paper on the "Causes which retard Dental Progress." The paper is interesting, progressive and practical, as well as historical and eulogistic. But it rather overdoes the matter when, in speaking of Fulton, it states:—
"That which he saw only within the small compass of his brain, we can now see in the forms of steamships, steam cars, steam mills, steam factories, of such gigantic proportions as to fill the mind with awe, wonder, and surprise."

Now the truth is that some of the things here enumerated, for example, the steam cars, Fulton didn't see at all; and,

though he may have seen steam mills and factories "in the small compass of his brain," he saw them as well, in full operation, on terra firma. And we feel that our favorite sciences are scarcely complimented by the President, when he speaks of chemistry, mineralogy and metallurgy as "minor auxiliaries" to dental science. But the President's paper filled a niche; and we are glad he prepared it.

Two papers were read by Dr. Atkinson, which would have been as appropriate at any other meeting as at a dental convention; but we like to read them, for reasons given heretofore. Dr. Burras read a paper on "Mastication, and Articulation of Artificial Dentures," which is a good deal anatomical, and a little practical, and will well repay perusal. Besides these, there was something read, which the Cosmos reporter, with a stretch of that charity which "believeth all things—hopeth all things," calls "an amusing poetical paper," of which we can only say that the fact of its being read at a meeting of the American Dental Convention, in classic New Haven, is profoundly humiliating.

The remarks of Drs. White, Atkinson, Wetherbee, Priest, and others, in regard to the importance of preserving the deciduous teeth are well worthy of attention; and we hope the younger members of our profession will cultivate that firmness recommended and practiced by Dr. Weatherbee. Parents are often unreasonable in their demands; but the dentist should never be dictated to. When our patrons will not rely on our judgment, after we have done all we can to enlighten them, we let them go. No man can afford to have such patrons. The suggestion of Dr. Priest, in regard to the education of parents, is well worthy of consideration. We can speak from experience in regard to its importance. The circulation of a few hundred copies of a popular essay among our patrons, has worked wonders. Those who have studied it take good care of their teeth, and, of course, have them filled in due time. And when they call on the dentist

they know what they want, and are much better satisfied with good work than those less informed.

Dr. Woolworth has noticed that "where deciduous teeth were extracted early, the permanent ones would also come through too soon," which is just the reverse of our own observation; therefore we would be glad to hear from others on the subject. An extended series of observations would, no doubt, elicit the truth.

The subject of bleaching teeth was considered on the afternoon of the second day.

Dr. J. D. White thought the discoloration which takes place in teeth which have lost their pulps is not from the hæmatine, or coloring principle of the blood, but from the absorption of the fluids of the mouth. He opposes the use of the hypochlorite of soda, because it destroys the normal structure of the teeth. The hypochlorites do act with considerable energy on the dental tissues; but it is hard to get an effective bleaching agent that does not.

Dr. Barker differs with Dr. W., in regard to the discoloration of pulpless teeth, and gives a case of successful bleaching by the use of prepared chalk and hypochlorite of lime. It is not probable the chalk had any thing to do with the process; and the hypochlorite of lime has the same effect, and is, therefore, as objectionable as Labaraque's solution.

Dr. Atkinson tells us that "color is not an entity, but an arrested fractional part of light," which looks like reaching into the subject, but the next time he will modify his defininition and call it a rejected fraction. His method of bleaching is to remove all the decayed material, and fill the cavity with "undeliquesced chloride of zinc, crowded into the cavity of the tooth." And at this point the bleaching properties of this agent were questioned, or rather doubted; and, if the report here is faithful, none of the speakers seem to have very clear ideas on the subject. While maintaining, (correctly enough) that chlorine is the bleaching agent, Dr. A. takes the position that undeliquesced chloride of zinc absorbs water

from the mouth, and, by becoming liquid, is decomposed, its chlorine being thus liberated to effect the desired bleaching. From hearing his views heretofore, we infer that this statement does not do him justice; but it is only with the report, as such, that we have to do. The succeeding speaker, however, seems to be equally unhappy in his explanation. tells us that it is "doubtful whether this action (bleaching) is due to the chlorine itself," which, perhaps, nobody claims. That is, all will admit that the oxygen, liberated when the chlorine takes hydrogen from water, has affinities sufficiently strong to decompose most organic coloring compounds which contain carbon and hydrogen. But its affinities, even in its nascent state, are not more energetic than chlorine. He tells us "moreover, the active agent in both the chlorides of lime and soda is not chlorine as such, but hypochlorous acid, which acid is set free from combination by any other acid, even the carbonic from the atmosphere." Now, if the professor had told that this acid "is very unstable, a slow decomposition taking place at common temperatures, by which chlorine is evolved"—that "this change is promoted by light, and is affected instantly by exposure for a few moments to the rays of the sun"—that it is also decomposed "by agitation with angular bodies" the decomposition being so rapid sometimes, as to cause effervescence by the escape of chlorine, we would have been hard to persuade that the active bleaching agent in the hypochlorites of lime and soda is not chlorine, as such. The great secret of the bleaching power of hypochlorous acid is its ready decomposition, by which the chlorine and oxygen are furnished so as to act in their nascent state. But it may be dangerous to differ with a man so learned that he has no opinions. But the professor's explanation of the action of chloride of zinc in whitening teeth, is peculiar. "His impression was that it acted physically in presenting a white ground in the tooth, and perhaps assisted to soften and remove animal coloring matters."

Now when the chloride deliquesces, which it soon does, it

ceases to present a white ground; and it would be interesting to know just how it could soften and remove animal coloring matter. But this will suffice.

Under the head of "Filling Teeth and Roots," Dr. White claims that a great deal is gained by filling the roots of teeth, which is certainly true in many cases. He tells us "that metal well packed will shut out the gases and fluids which decompose and injure the structure of the teeth, also closing a cavity that may become filled with pus;" but he gives us a curious idea of "metal well packed" when he tells us that he "regarded it best so to fill fangs that it may be removed in case of trouble." It strikes us that a metal stuck into a canal so loosely that it can be drawn out at pleasure, is not so well packed that it will shut out gases and fluidshardly exclude "that old chap, dampness," we fear. But the doctor subsequently "explained his manner of rolling a piece of gold, so as to be easily introduced and removed from the fangs of teeth," which is all very nice if any thing was gained by such stuffing. It is true that with gold lying loosely in the canal, it will not hold as great a quantity of "gases and fluids," but we can not see what else is gained.

Dr. White does not fill immediately after removing the pulp, while Dr. Weatherbee does. The latter claims extraordinary success—"in no case, during the past ten years, had he seen a single unfavorable case"—which laid a good foundation for the suggestion of Dr. Perine, "that we have no means of knowing how many unfavorable cases fall into the hands of other practitioners." We never admire a practice that is too successful. It argues a lack of opportunity

or disposition to observe results.

The discussion on "plastic materials" for filling teeth appears to have elicited nothing of practical importance, unless it be that a tooth sound enough may possibly be improved by soaking it for three years in a solution of chloride of zinc. And it is not strange that the man who

claims to be "the first in this country to use chloride of zinc," should speak of its removing the animal matter from a tooth?

The remainder of the report is interesting and practical, but presents nothing that calls for special notice here.

W.

# Selections.

DENTITION AND ITS DERANGEMENTS .- By A. Jacobi, M. D. -Lecture V.- That a large number of infants cut their teeth without any bad symptoms, has never been denied. Instead. however, of considering these cases as natural, they have been taken as exceptions; instead of looking for the causes of diseases in the age of the patient, and its various morbid dispositions in its constitution, or in direct injuries, both authors and the public have seemed to rest satisfied in the belief that the more an infant was disturbed with abnormal functions, the nearer came dentition to its natural standard. But all the symptoms observed during or before the protrusion of teeth do not come within the range of morbid affections; I have already spoken of some of the symptoms indicating the approximation of, or attending, the progress of dentition; I therefore shall not dwell upon them, but shall briefly enumerate such as are generally attributed to the protrusion of teeth. I may state that many explanations which would be here required, will naturally follow a physiological sketch of early infantile age, which I intend to give you in a future lecture.

The general irritability of the nervous system in teething children, is said to be increased. They are restless, sleepless, will suddenly awake from a short slumber, are peevish and cross, change their color frequently, and often urinate. I am certainly unwilling to deny the frequent occurrence of these symptoms in teething infants, but will take the liberty of stating, that in early infancy nervous symptoms are of fre-

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quent occurrence; that even the weight of the organs of the nervous system is greater in proportion than at any other period of human life, and its action may be supposed to be more powerful, and perhaps irregular; and that the very same symptoms attributed to teething are really being observed in almost all the affections occurring at this age. Both functional disorders and diseases are the more frequent the younger the individual; this is a fact clearly shown by all the statistics of both private and hospital practice, relating to both diseases, and the rate of mortality in this early period of life.

The local irritability produced by the process of dentition has often been noticed, and alluded to as a proof that there is something very peculiar and troublesome about this process. The infant is said to put its fingers into its mouth, and introduce anything it can lay hold on; it bites the nipples, and gentle rubbing of the gums causes an agreeable sensation. It is said to rub its lips, nose and eyes, and to move the occiput on the pillow, especially at the time of the protrusion of

the incisors of the upper jaw.

Such are said to be the local symptoms of either approaching or present dentition; the latter term always being made use of to signify the final protrusion of the teeth. Is it remarkable that an infant will put its fingers into the mouth at this protracted period of teething, viz. from the fifth or sixth to the thirtieth month, when it has done so from birth? The very fact of the peculiar position of the fœtus in the uterus, the prominence of the action of the flexor over the extensor muscles, appear to be among the first causes of the new-born child's sucking its fingers. The great sensibility of the cutaneous nerves of the ends of the fingers and of the lips, which are moreover regularly exercised by the reception of food; the indistinct impression, in the infant, after having been nursed a number of times, of the lips and mouth being in some connection with the feeling of satisfaction, are the reasons why the infant sucks its fingers in the few weeks and months following its birth. Whichever explanation is correct, it is a fact that, from the hour of birth, the infant will either suck its fingers or keep them in the neighborhood of the mouth and Nor is it astonishing that an infant will, during the time of dentition, take everything to its lips and into its mouth, after it has done so all its life.

The principal impressions an infant obtains depends on its relation to foods and drinks; eating is the only real propen-

sity an infant has, and the mouth is known by experience to be the great receptacle destined for the reception of everything around; not to speak again of the lips being used as a means of touching, grasping, and learning the qualities of things. Everything living learns by experience and experiments, by physical impressions. All the sensory organs will be exercised for the purpose of understanding the impressions on the peripheric nerves, and the sensory organ first freely exercised by an infant is that of palpation. Further, a teething child will often bite the nipple, undoubtedly, but a number will not; and any child with any irritation of the cavity of the mouth, with any form of stomatitis, with any disease, in fact, which causes a sensation of uneasiness, will do the same. And finally, ought we to attribute the restless movements of the occiput on the pillow to teething, when every child affected with almost any affection of the brain, or its membranes. with hyperæmia of the cranial bones, with cutaneous eruptions of the cranial integuments, and rachitical affection of the bones, will be observed to do the same?

Why is it that the protrusion of the upper incisors is often attended with this restlessness, and almost regular moving to and fro of the head on the pillow? It means that irregularity, or anomalies in the protrusion of the upper teeth frequently depend on anomalous development of the upper jaw itself; and that the development of the upper jaw is generally in intimate connection with the development of the cranial bones. Thus you perceive, that when this is abnormal, and the upper jaw suffering accordingly in its general development. that often-mentioned symptom has nothing to do with the protrusion of teeth, as such, but must be referred to a defective or abnormal development of the cranial bones and subsequent anomalies in the structure or function of the brain. Instead, therefore, of pointing to dentition, especially to normal dentition, it indicates some more or less grave disturbance in the constitution or function of either the brain or its membranes, or its cranial or cutaneous integuments.

There are some objective symptoms announcing the approaching protrusion of teeth, which are of more or less importance. The gums will swell, and become looser and softer; or, which is more common, the alveolar margin will become thick, hard, flat, and prominent. This condition is always perceptible, and nevertheless we are liable to be mistaken as to its signification. I have seen a child, who had

this prominence of the thickened alveolar margin over several teeth for a long time, without the teeth making their appearance. In fact, deep incisions had been made into the gum. more than two months before the first incisor cut through. This shows that although the normal process of dentition generally requires the condition of the alveolar margin described above, we are by no means justified in predicting a speedy protrusion of a tooth through the thickened and elevated wall. The prominence of the so-called dental cartilage is often said to be red, livid and soft. But in healthy infants, and with normal dentition, the contrary is generally the case. The mucous membrane of the mouth, although normal, is generally of a deeper color than the normal appearance of the gums, and frequently, in catarrhal affections of the mucous membrane of the mouth, the difference between its livid and softened velvet-like appearance, and the pale color and solid condition of the gums, is remarkable. Only when the protrusion of a tooth is very imminent, the gum will be in many cases a little sensitive, on being touched or pressed; and saliva and mucus are said to be secreted in a large quantity at the same time, until the gums become thinner and thinner, and the tooth protrudes.

Great importance is attached to salivation by the public, as a premonitory symptom of dentition; but it is a fact, that it will sometimes precede the breaking through of a tooth for a number of months, and will not cease after the tooth, or a group of teeth, have made their appearance. It is thought to be caused by the direct irritation of the gums, acting on the mucous membrane of the mouth, and the stenonian ducts and the salivary glands. It has even been considered to be the cause of a number of accidents occurring during dentition; the saliva and mucus were, in the opinion of a number of medical writers, swallowed, and proved to be the cause of vomiting and diarrhea, of erosions and aphthous inflammation of the mucous membrane. The truth is, that increased salivation is regularly observed in infantile age, long before, and during the first period of dentition. If, therefore, those authors were right, who believe it to depend on the irritation of the mucous membrane of the mouth, and of the salivary glands, there must be a constant irritation of the gums in every normal dentition. This, however, is not so, according to my preceding remarks. I will simply state now, that the increased secretion of mucus and saliva before this time does

not depend on the protruding teeth, but is the result of the salivary glands and mucous follicles undergoing about this

time a rapid process of development.

We shall have to return to this subject, and have to learn from a physiological sketch of the infantile organism, which I expect to give in this course of lectures, that a number of symptoms apparently affected by each other, and depending on each other, are but inordinate consequences of one and the same common cause. At all events, this will be readily understood by you, that the increased salivation need not be produced by some supposed constant irritation of the gums. At all events, you will not be deceived by the occasional emphatic statement of the following observations, which is meant to show that dentition in normal and robust children will be attended with copious salivation, while sickly and feeble children have no salivation to any amount. This appears to be true, but is not. The observation is imperfect in this, that healthy and robust children of four, six, or eight months, will generally, while awake, be in an upright position, thus dropping a large amount of the secreted mucus and saliva, and being constantly wet with it; while sickly and feeble children of the same age will, first, be a little backward in their general development, and moreover, have too little muscular power to allow them any but a supine position. Thus they will swallow most of the secretion, which more robust children will be constantly wet with.

I think it but reasonable to infer that if remarkable symptoms are the result of dentition, either normal or abnormal, a large number of anomalies must take place in the immediate neighborhood of the protruding tooth, if not in its own substance. Such affections are found, indeed, and known by the terms of odontalgia, odontitis, and gingivitis; but they are very rare affections, and the only idiopathic ones which are said to have occurred during, or rather in consequence of

dentition.

Odontalgia, or neuralgia of the dental pulp, the dental nerve, is said to have been observed in teething children. What were the symptoms of this disease of dentition? Patient cried much, kept his fingers in the mouth, caught the breast greedily, and left off just as suddenly, was also constipated, but otherwise healthy, and there was but little injection, and intumescence of the gums. Exactly the same symptoms are reported to attend normal dentition, with the exception, per-

haps, of constination. But the restlessness of the infant was in connection with this constipation, and it screamed from colic pains. Although we are told by observers that the symptoms would disappear with the protrusion of the very first point of a tooth, the number of cases of this dental disease is so small, that we can not refrain from doubting the correctness of the diagnosis. In olden times, odontalgia from dentition has been observed a number of times; thus Karl Hindy has a chapter on the subject; but a more modern author, Hanmann, relates having seen two cases occurring during the protrusion of the molar teeth. Two cases in the lifetime of a medical man, who has met with many thousands of teething children; no pathognomic symptoms in these very cases to distinguish them from other complaints; no like observations in the practice of hundreds of other practitioners -all this looks rather suspicious, and leads us to infer, that this odontalgia depending on dentition, although its occasional occurrence during the protrusion of a tooth may have been

observed, is rather doubtful.

Gingivitis, inflammatiun of the gums, is also reported to have been observed in the course of dentition. Its symptoms are the very same that have been given as premonitory of normal dentition, and in odontalgia, with the addition of intense injection, swelling, and heat of the gums and the mucous membrane of the mouth and pharynx. We are justified in doubting whether all these cases have been primary gingivitis, or whether or not the affections of the mouth and pharynx have been the primary diseases; the more so when we again are told of the presence of the very same symptoms as above, and moreover learn, that the gums will not only tolerate a moderate pressure while inflamed, but the patient feels reliev-That there can be a severe inflammation of the gums, in connection with the protrusion of a tooth, is proved by the difficulty sometimes, though rarely, met with by the protruding wisdom tooth, resulting from insufficient room, etc., but very rare it must be, as the termination in suppuration has been observed by but very few men, and but very seldom altogether. We are the more justified in so presuming, as we know of a number of cases of very severe and general stomatitis without the least affection of the gums, and of others where the gums were immensely swelled without injection, heat, or pain; and as the gums are generally very little apt to be affected by inflammatory action. Ulceration of the

cheeks in the immediate neighborhood, or even anomalous protrusion of teeth, either deciduous or permanent, through the gums and alveolar process, in an oblique direction, are but seldom found to give rise to an inflammatory process in the gums.

Odontitis, or inflammation of the tooth, is the third local affection sometimes attributed to dentition. Again the same symptoms, pain, injection, swelling, are enumerated, and described as very intense and obstinate. Recovery would not always take place, although it would be the result, after days or weeks, in the majority of cases; but death would sometimes ensue under the symptoms of a thorough affection of the nervous system, or of a "typhoid fever." It would often be combined with other diseases, and, according to Schönbein, not unfrequently with rachitis. Jahn has made a number of post-mortem examinations in cases of odontitis, and what did he find in such children who died from inflammation of a tooth? Why, hyperæmia of the brain, acute hydrocephalus, "gastromalacia," and always violent inflammation of the gums and alveoli, with sometimes a dark bluish color of the alveolar margin. This latter shows certainly injection, but the former prove those children to have suffered from, and died of cerebral diseases. The connection of rachitis also points to the slight importance of the local affection, showing that the principal danger has been observed to be derived from constitutional or local ailings, not at all depending on or connected with, the local process of the protrusion of a tooth. I have to state, finally, that there is no such thing as odontitis proper, the dental tissue being too hard and deprived of vessels for an inflammatory process to take place. What has been called by this name, is either endodontitis, or perodon-The former is inflammation of the inner dental pulp, richly endowed with nerves and vessels, in which stasis and chemical changes may take place, and intense pain be felt, and central caries brought on. This form will sometimes be observed, but in advanced age, and not rarely in very robust and otherwise healthy men. Perodontitis is inflammation of the periosteum surrounding the root of a tooth, producing a heating pain, especially in the warm temperature of the bed. The tooth appears to be elongated, and feels sore on pressure, until either recovery has taken place or suppuration, which will permit the tooth to be removed without much difficulty. That the gums suffer simultaneously, is but natural. this affection is also observed, almost exclusively, in adults. -American Medical Times.

WATER: ITS HISTORY, CHARACTERISTICS, HYGIENIC, AND THERAPEUTIC USES.—By Samuel W. Francis, A. M., M. D., of New York.—Steam, the brother of water, lived in the bowels of the earth for centuries ere man discovered its utility and mastered its power. So great an agent; so hidden a virtue; so unaccountable a force required the lapse of nineteen hundred years before the extent of its conduciveness in relieving labor was fully appreciated.

What a vast field of discovery and experiment exists between the simple Eolipyle of Hero,\* over a century before the Christian era, and the latest inventions of Watt, Fulton, and Ste-

venson!

Savory first successfully substituted steam for the labor of animals. Newcomen first applied it to a more solid body. Watt made the first steam engine. Fulton applied it first to propelling vessels in water. Evans and Trevithick first

adapted it for locomotive on land.";

What mighty intellects; what determined perseverance; what sacrifice of time; what loss of life; what waste of powerful energies; what superhuman efforts did steam exact as equivalents for submitting to be confined within the narrow limits of a business life. From its birth accustomed to mount up to the purest ether and dwell amid the regions of a softer clime, it could not yield to sordid views and work for what would never reach to heaven. The cause of its subjection, found only in the gloomy abodes of earthy dwellings-gold -was not sufficient recompense for the gentle, cloud-like form of its mist-like beauty, free as air and pure as nature's own adopted child. And even now, unlike wild animals that can be conquered and completely broken in, never more resisting, steam seeks every opportunity to escape; and, while working with an hundred horse power, strives to burst her bonds, reach a purer atmosphere and leave all sublunary objects to a feebler power. The discovery of hidden wealth has brought renown upon the finder and benefited much the country that possessed the mine; the successful wars of mighty leaders have proclaimed their names as great—time-honored heroes that they are; the appearance of a new continent in 1492 A. D., rendered immortal the name of Christopher Columbus; but the discovery and application of steam—the soul of water—has

<sup>\*</sup> Historical and Descriptive Anecdotes of Steam Engines, etc., by Robt. Stuart, London, 1829.

<sup>†</sup> Renwick on the Steam Engine.

heaped blessings on mankind, and taught us to revere the element water in all its threefold beauty and importance.

In Therapeutics water must of necessity stand more or less preëminent. In the first place, no remedy, be it ever so mild, can be swallowed without the use of a liquid to assist the muscles of deglutition in contracting on the fluid and thus forcing it down. Where a solid substance is administered, the act of swallowing can not be performed without the aid of the salivary glands, with their apportioned duties, of no small importance to the patient or the man of healthy parts.

In viewing the phenomena of disease in all its different forms, and diagnosticated in every type, be it malignant or of a simple character, we find that the treatment which the medical man is enabled to prescribe is to be found principally in the Pharmacopiæ, and on reading closely the list of remedies. and comparing the different methods adopted by the learned of various countries, one can not help being struck with this all-important fact, namely; The desire of "washing away the disease" in one way or another, as the case may demand, or the symptoms indicate. Thus we have diuretics to force the kidneys to secrete more rapidly the urine, and carry off much of the noxious materials of the blood, whether it be the urea, or the dead plasma, which, being used in the destruction of blood discs, occasioned by musculary exertion, is now to be eliminated by the malpighian tufts. And here we find that on analyzing urine, out of one thousand parts, eight hundred are water, and the remaining one-fifth is made of urea, uric acid, sulphates, phosphates, and chlorides, in solution.

But should the kidneys be affected by disease, should acute nephritis set in, or the sufferer be afflicted with Bright's disease in any form, and the practitioner be consulted for his medical advice; as we know there exists a marked sympathy between the urinary organs and the lungs, and more particularly between them and the skin, its action in summer taking, to a great degree, the labor from the kidneys, and persons, consequently, micturating less frequently in the hot months than in winter, when the little capillaries are closely contracted by cold, the remedy at once recommended, suggesting the proper means for allowing the kidneys to rest in order to recover their normal power, is a diaphoretic. By this means, and in any congested state they tend, in inflammatory diseases to allay irritation, produce a sudorific effect, and literally sweat off the disease thereby, in connection with the

proper anti-phlogistic measures of relieving the patient from the great congestion necessary to inflammation, as in pneumonitis, bronchitis, pleuritis, and other diseases of the thora-

cic organs.

Where there is active congestion, in the first stages of inflammation, resulting from external violence, the application of cold water dressings causes the capillaries to contract powerfully, forces back the rush of blood to the injured part and the sufferer recovers rapidly. But where these little tubules have been stretched until their contractile power is lost, and become, as it were, asthenic, then bathing the wound or bruise with warm water allays pain by its more soothing influence, and opens the pores of the adjacent part, promoting exudation where the blood vessels were in a state of passive con-Schmucker (1712-1786) based much of his treatment of wounds of the head upon the judicious application of cold water. Likewise Lombard, (1741-1811,) together with Percy, (1754-1825) derived a great deal of useful information from a miller, in the Elsass, 1785, who assisted the surgeons in dressing the wounds of the soldiers, in Strassburg, with a solution of alum and water, which circumstances led Percy subsequently to assert that if Sydenham "would not be a physician without opium, he should not like to be a surgeon without water."

Cold water dressings in surgery are esteemed of great practical utility; and, in many cases, become indispensable to the surgeon while in attendance upon the suffering. Hippocrates and Celsus were most energetic in behalf of the use of cold water, the sentiment appears to have escaped notice and practical use till Ambrosius Paré (1509-1590,) discovered anew its tonic properties, while searching for the Italian balsamic oil, which, at one time, wrought such marvelous cures in the healing of wounds and sluggish sores. Soon after this Jaubert and Martel (1600) maintained its wonderful power in alleviating pain. In France, Chirac and Lamorier (1730) proclaimed its virtues; and, in Italy, Sancassani, (1659-1737,) Benevoli, (1685-1756,) and Caldini, (1724-1813) announced their belief in the stimulating and medicinal properties of certain qualities and quantities of water.

Freezing an extremity with ice and salt at once deadens sensation by benumbing the nerves, rendered by irritation and consequent tendency of blood to the part, which distends

the vessels, and thereby presses upon their thin, attenuated fibres, much more susceptible to pain; and the removal of a splinter from beneath the nail may be effected without the knowledge of the patient. Water-beds, in cases of fracture, or where paralysis has destroyed the power of motion, render the sufferer more comfortable at the time, and prevent, to a great degree, those most incurable of all troubles affecting the sick and enfeebled, namely, bed-sores, which, in too many cases, proclaim the rapid decline of the patient toward the grave. As slight as it may appear, and as common to the person of cleanly habits, frequent ablutions of the body remove the susceptibility to disease, and promote a greater amount of superficial circulation, which renders the man of health better able to cast off any offensive gas that may either have been generated in the system or received by inspiration into the lungs.

In Dr. Leigh's History of Lancashire, mention is made of some chalybeate waters, which he asserts to have found more efficacious in the treatment of "leprous distempers, scorbutic atrophy, the rickets, and scorbutic rheumatism,' than any known medicine in his day. And Dr. Floyer remarks, in his "Fourth Letter," etc., "If cold baths are proper for the scurvy and consumption, then they are useful in the several species and complications of them with other dis-

eases."

Were persons to preserve a scrupulous cleanliness of habit, and follow more faithfully than is their wont, the simple laws of common-sense hygiene, doctors' fees would be materially lessened, and that inability on the part of the sufferer to throw off the disease would no longer be an additional cause of pros-

tration, which not unfrequently terminates in typhus.

When it is remembered that twenty-eight miles and upward of pores carry off much of the impurities of the blood to the surface of the body, where, if not properly removed by a free use of water, they must remain deposited, and close up their little outlets, it may readily be seen how indispensable it is for man to remove, by frequent cleansing, all that may serve to arrest the progress of this effort of nature to free itself of any morbific tendencies.

We are indebted to Lavoisier and Seguin for some valuable data relating to the quantity of vapor excreted from the surface of the body and exhaled from the lungs. After many careful and elaborate experiments, Seguin especially ascertained that the maximum amount of pulmonary and cutaneous exhalation, in twenty four hours, amounted to five pounds: the minimum, owing to one or more special causes, one pound, eleven ounces, and four drachms, (xlii. 1790.) Valentin, by exact measurement, discovered that a person, in a normal state of health, who consumed each day forty thousand grains of food and drink, exhaled from his skin and lungs some three and a half pounds. By making due allowance for the weight of the carbonic acid, and deducting all that may come from the respiration, two and a half pounds are found to be the diurnal exhalation of the skin. Much of this transudes, if we adopt Krause's "estimate of about eight square inches for the total evaporating surface of the sudoriforous glands." Hence we can not fail to see the urgent necessity of removing, as soon as may be, the accumulation of any foreign material that, by its presence, prevents a free transpiration, etc. in future.

Most of the diseases the physician is called upon to treat, in a slightly modified form, begin with inflammation in the first stage of congestion and the consequent symptoms that ensue. As the disease advances, either lymph or serum is cast out through the distended vessels; and, lastly, absorption or some temporary effort of the organ affected, to free itself

from the foreign matter, ends the case.

As for example, let the pleura be taken as a type of inflammatory action. The first cause of pain is that occasioned by the dryness of the two surfaces in the congested state. friction sound that the auscultator hears so distinctly is caused by the movement of the sides of the pleura at each inspiration and expiration. And now, in pleuritis, the normal amount of fluid (composed chiefly of water!) that so beautifully lubricates the surfaces, has disappeared, and this unusual attrition of parts brings about that peculiar shooting sensation in respiration which is so distressing to the patient, and at once demands speedy relief. In the second stage, the serum of the blood is effused into the sac formed by the two membranes, and thus compressing the lung of the affected side throws double duty upon the healthy lung, and not unfrequently brings on, by this additional labor, emphyzema—at times producing death by apnea, or by displacing the heart, and, consequently, accelerating the pulse, syncope terminates the life of the already exhausted patient. The serum contains, as its principal ingredient, water, and, if not removed by absorption, increased by the judicious administerings of antimony, Pover's powder, nitrate of potash, acetate of potash, or any of the diuretics or diaphoretics, this serum, with more or less lymph, which may have exuded through the little capillaries, will degenerate into pus; and empyœmia may call for paracentesis thoracis to lessen the complication and save life, which is rapidly declining under hectic symptoms of an aggravated character. It is curious to the thoughtful that this disease, rendered dangerous by the excess of fluid effused into the pleural sac, is also caused, in a great measure, by the prompt use of such remedies as shall promote a free diaphoresis and continued secretion of the kidneys, and likewise by the moderate use of hydra-gogue cathartics.

Thus also with the brain, encephalitis presents an unfavorable prognosis from the fear of effusion, which may terminate in hydrocephalus, and, by the constant pressure upon the brain, produce death in a more or less speedy manner.

Diseases of the heart, apart from auscultation, are recognized by the appearance of anasarca; and so invariably are the two associated that an able practitioner of this city said, that "tight boots at night" may be considered as one of the certain proofs of cardiac trouble. And not unfrequently is the patient "drowned in his own fluids" ere the valves of the heart have ceased to perform their functions, disordered by atheromatous deposits of hypertrophy, occasioning dilatation and consequent regurgitation. Chronic disease of the kidneys may be diagnosed, together with other symptoms, by the presence of dropsy, edema of the inferior papebral sinus, being an additional proof of the existence of renal disorder.

And when that largest of all organs in man, so much abused by him in his excesses of enjoyment and epicurian mode of living, is diseased, one of the strongest signs of cirrhosis, after palpation has revealed the decrease of size, and nobby feel of its surface, is ascites, resulting from the chronic congestion of the liver; consequent engorgement of the portal vein, and likewise tension of the mesenteric veins. The capillaries can not resist the increased amount of pressure from within, and serum is effused—the liquor sanguinis being the watery composition in blood.

Curious moral is it indeed, when man seeks to live beyond his capacity, and overtaxes what has been provided for moderate enjoyment, neglecting the much revered precept, "Maden agan" of Aristotle, to gratify a pampered and deprayed appetite; when he passes hours at the sumptuous repast, and partakes too freely of alcoholic stimulants, till the brain reels from the excess of carbon in the blood; his last desire before consciousness vanishes is to satisfy a parching thirst; and now he pushes aside the rich o'erflowing goblet, crimson, a proper type of another victim slain for Bacchus, and seeks the cool, unequaled water, to refresh his burning throat and inflamed imagination. This is but the result of intemperance so well described below:

\* "Of all the evils darkening here below,
Thy hand, intemperance, works the direct wo!
Could all the gathered tears attest thy might,
Oh what a sea would welter on the sight!
Could all the moans be heard from thy career,
What a wild sound would peal upon the ear!
Could all thy victims march in dread array.
Across the world would stretch their blackening way.
Thine, the poor drunkard, reveling in his shame;
Thine, the young bride that bears his blighted name."

Such are the poet's sentiments! He lives a drunkard and dies of dropsy. The result a hob-nailed liver. In metaphor each nail resulting from a separate debauch, and significantly typical of his driving with each successive drink a nail into

his future coffin lid.

In apoplexy, where the effusion of blood into the encephalon renders the life of the patient of doubtful issue, the application of bags or bladders of ice to the head, lessens the dull, heavy pressure, and serves to drive out the blood through the smaller vessels from the center of thought. Acute gastritis is oftener allayed by swallowing small pieces of ice, than by administering the multifarious decoctions and much abused opiates, which only deaden consciousness and relax the system, but can not reach the inflamed stomach as readily. This, the latest treatment, applied to cases of a similar character, dates as far back as the time of Themison, a disciple of Asclepiades (50 a, chr.) who was accustomed to reduce all treatment to the principle of contraction and relaxation, and whose follower and admirer, Eudemus, strongly advised cold clysters as a remedy for the alleviation of gastralgia.

Celsus (23 p. chr.) advocates the use of water as a bath, affusion, or even in the capacity of a beverage, for almost every disease of the alimentary canal, and, what is most cu-

<sup>\*</sup> Alfred B. Street.

rious, even when the patient is afflicted with that most ago-

nizing of diseases, hydrophobia.

The strong prejudice against the use of cold drinks, and especially that of cold water in fevers, or when the usual dose of mercury has been given, is greatly removed by the more enlightened and a wider experience in philosophical investigations and practical truths, deduced from facts of a most in-

teresting character.

It is found pleasing to the taste, cooling in its effects, and productive of a freer diaphoresis. And the moderate sponging of the body after a long and protracted illness, with warm water and soap, promotes a more healthful and certain circulation, which takes off, as it were, an oppressive load from the system. This was urged by Rhazes (923), whose boldness of conception was only equaled by his originality of thought. In phthisical persons, where tubercles have filled up portions of the lungs, and percussion reveals a marked dullness near the apices, a free use of the sponge bath greatly assists the breathing, which has for its immediate object the æration of the blood; and if any of the onus can be removed by the skin, acting in connection with the pulmonary apparatus, much benefit is derived, and life is positively prolonged.

Even the Emperor Augustus, following the advice of the learned Antonius Musa, abandoned the enfeebling "fur-lined apartments," which he had occupied from a fear of approaching phthisis, and, by a judicious use of water, braced his system, and recovered tone. To this same Musa was the susceptible Horace indebted for much refreshment after many a night's "three times three," by the stimulating influence of a cool bath. I would not have it thought that I entertain any of the views of those over-enthusiastic so called "hydropathists." Such is not the case. It is only my object to trace out the uses, history, and interesting details connected with the characteristics of water, that lead me to enter into the opinions of the past and present practitioners, as regards the purity and indispensible qualities of all that may pertain

to 1t.

Among the many diseases to which man is heir may be enumerated hydrocele, hydatids, hydro-thorax, hydro-cephalus, hydro pneumo-thorax, and many others that terminate in dropsical effusion. Hydrophobia is one of a special character, no affliction surpassing in its evil consequences and present agony, this dreadful, spasmodic horror of water, whose

very presence throws the strongest man into immediate convulsions; and which has for centuries baffled the closest investigations of the learned, and overcome the most powerful constitutions of the healthy and energetic. Ovarian dropsy is a disease not unfrequently met with in practice; and though absorption may carry off some of this extra, watery fluid, and other remedies temporarily free the sufferer, water still accumulates, and at length assumes an unchecked sway. Gradually it pervades the entire system, crawls up the intestinal canal, disturbs the respiration, deranges the stomach, and death follows as victor.

How exquisite is the provision of nature! How indicative of a Higher Power is the "Bag of Waters," in which the infant yet unborn is carried, protected from the sudden blow of accident or outward violence. How utterly indispensable for fœtal life; how impossible for parent or child otherwise to go

on till the proper time of parturition.

As a proof of the importance of preserving the waters as long as may be, during the first stage of labor, I quote the

following:

"Si la texture des membranes est lâche, leur rupture dès le commencement du travail. Chez quelques femmes, les eaux s'écoulent avant qéulles aient été averties par des dou-leurs, des effort contractiles de la matrice. Dans quelques cas, on a vu le travail tarder huit à neuf jeurs â se déclarer."\*

When that all important period has arrived, and nature calls for a commencement on the part of some one, how responsive to this appeal and how gentle is the persuasive, wedge-like pressure brought to bear upon the os, dilating the cervix by its gravity, and at the same time irritating the nerves distributed to that part; thereby summoning the uterus to contract with all powerful efforts, and give forth what had lain concealed for nine long months of gradual, placental All who have attempted version in mal-presentation, or when the exhaustion of the parturient female calls for immediate delivery, can testify to the incalculable benefit and incomparable assistance to be derived from the "Bag of Waters." By this means, with great rapidity and moderate facility, the child may be turned, the uterus being kept back for the time by the distended sack filled with the miconium. But how impossible and vain are the attempts of the ablest

<sup>\*</sup> Dictionaire des sciences médicales.

accoucheur, who, attended by no unnatural obstruction, endeavors to manipulate, when the arm becomes paralysed by the almost incredibly powerful contractions of the womb; so that at times it becomes the duty of the assistant to deliver first the doctor, and then the fœtus. The empyric can not fully appreciate the wonderful assistance of this bag, but the man of experience preserves it till the last moment, and well might the child born with a "caul" be esteemed most fortunate.—Medical and Surgical Reporter.

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CAUSES WHICH RETARD DENTAL PROGRESS.—Read before the American Dental Convention, at their meeting in New Haven, Ct., August, 1861, by the President, Dr. Allen. For more than two thousand years dentistry has been gradually advancing, though slowly, yet more and more rapidly as its progress with the march of time has been onward. There may be those who will note the present era as the time when dental surgery reached its ultimatum. So thought many of our predecessors in years gone by; but the future historian will doubtless look back upon the year eighteen hundred and sixty-one as forming only a connecting link between the past and the future, and that a still brighter period in our profession will mark the page of history. The rapid advancement of dental science within the last thirty years is only an index of what is to come. The facilities now afforded for acquiring a thorough dental education through the instrumentality of numerous well qualified private preceptors, together with the dental colleges, dental associations and dental literature, in this country and in Europe, all point with peculiar significance to a brighter future. The march of improvement is still onward; the sun of science continues to shed its genial rays upon our profession, and to develop more perfectly the principles upon which it is based. But still, with all these advantages, and all that has been done to bring dental surgery forward to its present stand-point, much remains yet to be accomplished.

We deem it proper, therefore, to notice some of the causes which retard our onward progress. There are many who never venture out of the old beaten track of their predecessors; they will acquire, perhaps, the same degree of skill, go as far as others have gone, but no farther. They, however,

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nobly sustain the profession as they find it, and their valuable services have done much to ameliorate the condition of those who were so fortunate as to fall into their hands, and many of their operations will stand as truthful records of their memory, long after they shall have gone to their last home.

If these worthies would venture onward to some unbeaten track, their sphere of usefulness might still be enlarged, for in their reconnoitering they might, perchance, discover some new principle or improved method of accomplishing what is already known, and thus add to the common stock of dental science; but they decline doing this, and rest upon the laurels

already won by others.

Another cause that prevents advancement rests with those who venture on a little way, and then turn back before their point is gained, having reached only the conclusion, that if it were possible to accomplish the object had in view, it would long since have been done by some one else. Suppose Harvey had reasoned thus when he commenced his investigations with reference to the circulation of the blood. If he had, the world might yet have been in darkness upon the subject.

Suppose Columbus, after having made a voyage or two in pursuance of his favorite theory, had failed to discover this continent, (which to others then seemed to exist only in his brain,) and had abandoned his object as hopeless, he would not then have been the means of shaping the destiny of millions of our race, who are now enjoying the benefits of his

conceptions, his energy, and perseverance.

If Fulton had listened to the advice of friends, whose minds were not enlightened like his upon the subject of steam-power, he never would have developed that great principle which has revolutionized the commerce of the world. But he saw in his mind's eye the engine working, the steamboat moving, the benefits germinating, which would redound to his honor and to the prosperity of nations yet unborn. That which he saw only within the small compass of his brain, we can now see in the forms of steam ships, steam cars, steam mills, steam factories of such gigantic proportions as to fill the mind with awe, wonder, and surprise.

We might dwell with interest upon the thousands of inventions and improvements that mark the progress of science and civilization, all of which first originated in thought, then dwelt in the secret chambers of the human brain, where they were modeled and perhaps already working in the spirit of

man, long before they were clothed with a body, and devel-

oped in practical forms.

These examples show us the great importance of vigilance and perseverance also in our profession. Again, it is thought by many that our profession is not sufficiently remunerative to justify much expenditure of time and money, in the preparation and pursuit of dental practice. This feeling begets apathy, which retards our progress. Apathy should not find a lodgment among us, for two reasons: one, because our own prosperity requires constant vigilance; the other, because the community in which we live claim our best services. says one, I have to compete with very incompetent men, who charge but half price for their services, and I must meet them on their own ground. Not so; this is the wrong ground to occupy; it is far better to avoid these low competitors, by keeping off their platform. Seek a higher level; the most effectual means of putting down empiricism is to soar above it, and help others up rather than lower yourself. This position will command a practice both lucrative and honorable, for the public are not so dull of perception as to be unable to discriminate between the true professional man and the one devoid of the essential requisites that characterize a well qualified practitioner, who calls to his aid all those fundamental principles and collateral branches which eminently qualify him for the discharge of his professional duties. To this end. he seeks the aid of physiology, which teaches him the functions of the different parts of the human system; of anatomy, which unfolds to him the situation, structure and economy of the animal body; of pathology, which explains to him the nature of diseases, their causes and symptoms; of therapeutics, which guide him to those curative agents that assist nature in restoring health when attacked by disease. These, together with chemistry, mineralogy, metallurgy, and other minor auxiliaries which are acquired by experience in manipulations, illuminate the mind thus disciplined, and its genial rays reflected upon other minds, dispel the darkness which the empiric leaves in his train; and thus the public can readily distinguish between the man of science and the mere pretender, and will bestow patronage accordingly.

There is another class of dentists who do but little toward furthering our course, although they are good practitioners, profess strong powers of perception, can see defects still in the dental art that ought to be overcome, but are unwilling to incur the necessary expense and time that may be required to produce the desired results. They are unwilling to prosecute investigations in the dark labyrinth that lies before them, without the hope of reward. We trust the time is not far distant when acceptable provisions will be made by means of which this obstruction will be removed, and all others that tend to impede our progress Let every one feel that he can do something, that there is yet room for him to make his mark, and then much will be accomplished. Bear in mind, that men's acts live after they shall have passed away; and may some lasting good result from the part we have taken in this life.—Dental Cosmos.

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Mastication and Articulation of Artificial Dentures.

—Read before the American Dental Convention, at its annual meeting in New Haven, Ct., August, 1861, by Dr. Burras.—

To distinctly understand the subject of mastication, and clearly comprehend the aim and object for which artificial dentures are constructed, it will be necessary to have some knowledge of the parts, particularly of the composition of the temperomaxillary joint, that is, of the ligaments by which its motions are restrained, and the muscles by which those motions are

effected or produced.

The inferior maxillary bone is articulated by its condyles on each side with the glenoid cavity of the temporal bone. This glenoid cavity is bounded anteriorly and superiorly by a prominence called the articulating eminence, and is of some considerable consequence and influence in controlling the motions of the jaw in mastication. From the relative position in which parts composing these joints are disposed, and the intimate connection of the intea-articular cartilage and the condyles, this articulation is very peculiar, somewhat nearly resembling that of the elbow-joint in its motions. There are three ligaments appertaining to this joint. external lateral, by its superior extremity has a broad attachment to the articular eminence and outer ridge of the glenoid cavity. It extends obliquely backward, and is inserted upon the outer side of the cervix of the lower jaw. The internal lateral is attached by its superior extremity to the inner edge of the glenoid cavity, passing in an oblique direction downward and forward, and is inserted at its inferior extremity to

that little bony projection, on the lower jaw, surrounding the posterior maxillary foramen, where the dental vessels and nerves are protected by it from the motions of the internal pterygoid muscle. The stylo-maxillary or suspensory ligament arises from, and is attached to the styloid process of the temporal bone, and is inserted at the angle of the lower jaw. Its use is to restrain the forward motions of the lower jaw, upon the articular eminence of the temporal bone.

The motions of the lower jaw are controlled by the muscles, and are somewhat free and extended. The simple ordinary motions are depression, elevation, protension, and retraction, and I may add, lateral or partial rotation. When the lower jaw is depressed, the condyles are advanced upon the articular eminences, and the angles of the jaw are carried backward; consequently the center of motion is below the condyles, allowing the jaw to be depressed to a greater extent than if the motion of the condyles was restricted to the glenoid cavity.

The only muscle that acts as a depressor of the jaw is the diagastricus. The origin, insertion, direction, and pulley-like attachments are beautifully adapted for the performance of this office. It arises from the root of the mastoid process and os hyoides, and is inserted into the lower and anterior portions of the chin. Its use is to draw the jaw downward, and assist in deglutition.

The elevation of the jaw is performed by four pairs of muscles, the combined power of which is more than most persons would suppose possible, having seen a statement of force exercised by them of 450 lbs. pressure. They are the temporales, masseters, pterygoid, internal and external.

The temporales has its origin from the os frontis, portion of the os temporis, back part of the os malæ, and the temporal portion of the os sphenoides. It is inserted into the coronoid process of the lower jaw. Its use is to move the lower jaw upward.

The masseters have their origin from the malar process of the os maxillare, the lower edge of the os malæ, and the zygomatic process of the os temporales. They are inserted into the base of the coronoid and the condyloid processes. They serve to raise and move the jaw backward and forward.

The pterygoid internus arises from the inner surface of the outer wing of the pterygoid process of the sphenoid bone, and from the process of the os palatæ, that helps to form the pterygoid fossa. It is inserted into the inner side of the lower

jaw, near its angle. Its object is to raise the jaw and rotate it to one side. The pterygoid externus arises from the external alæ of the pterygoid process, part of the adjacent maxillary process, and ridge of the temporal process of the os sphenoides. It is inserted at the fore part of the condyloid process, and likewise into the capsular ligament of the lower jaw. Its use is to move the jaw forward and to the opposite side, that is, when the muscle acts singly. When both act in conjunction, the jaw is brought horizontally forward. Its insertion prevents the ligaments of the jaw from being interposed in the peculiarity of its motions.

The process of mastication is performed by the operation of those muscles, the uses of which have just been described, and consists of two distinct actions: biting, or the separation of particles by means of the incisor teeth; and chewing, or the process of grinding by the molars. By a repeated continuance of this action, the food is ground, comminuted and reduced to a pulp, and is thereby prepared for the act of de-

glutition or swallowing.

In observing this process, and examining the motion of the lower jaw of children before the teeth are disrobed, there will be considerable deficiency observed in the articulating process of mastication, in not having that free and extended motion which is permitted in the adult. The glenoid cavity being circumscribed to very little more than the size of the condyles. and the articular eminence not being yet formed, consequently the motion of the jaw of infants is confined to simple elevation and depression, with scarcely the least approach to rotation, the condyle being the center of motion in this instance. A sequence almost parallel with this is produced in aged persons who have lost all their teeth, although the state of the mouth, and the circumstances producing this peculiarity are widely different. After the complete removal of all the teeth, and the absorption of the alveolar process has progressed to any great extent, the face will become considerably shortened, in some cases by nearly if not quite the length of the upper and lower teeth, that is, when the mouth is closed to the occlusion of the lower to the upper jaw. When the lower jaw is retained in the position it occupied before the teeth were extracted, the opening between the jaws is sufficient for the introduction of food and most other purposes, and it is seldom necessary to open sufficiently wide to bring the condyles forward on the articular eminences. The operation of mastica-

tion in an aged person of this description is very similar to that of an infant, and confined chiefly to the depression and elevation, and not having that alternate lateral motion. When the lower jaw of a person in this condition is closed, the chin describes a large circle and is thrown very much forward, projecting far beyond the upper jaw, so that what little mastication is performed is effected by the sides of the jaws, the only parts that can be brought in contact. In procuring a correct articulation for artificial teeth, the profession has been very much perplexed, and many artificial dentures, otherwise comparatively perfect, have been rendered useless by this operation having been negligently or imperfectly performed. And as there have been, heretofore, no established usage or particular directions adopted by the profession in obtaining correct articulation, I desire to give a mode of practice I have pursued for some years with great satisfaction to myself, and the various members of the profession to whom I have communicated it have given it their unqualified approbation. This, in connection with an ardent desire to render as perfect as possible all the manipulations in the practice of our profession, is the only apology I can offer for trespassing on the valuable time of this Convention.

to the mouth, set around on it, on the alveolar ridge, a rim of wax, as near the position to be occupied by the artificial teeth as judgment may dictate, being careful to have this rim of wax adhere to the plate or base so as not to be displaced by the operations of taking the articulations; then, while the plate or base is in its correct position in the mouth, direct the patient te swallow, or perform the act of deglutition, and retain the jaw in the same precise position of occlusion as it was on completing this act of swallowing; then, by parting the lips you will perceive the relative position of the jaws, in an exact situation for a correct articulation. As nature herself, by this operation of swallowing, produces an equalization of motion in all the muscles that move the jaw; as there is as much distinctive individuality in the pecuniarity of the voice, as there sometimes is in the singularity of the position of the teeth, an imperfect articulation of an artificial denture, producing an effect on the tempero-maxillare joint, will almost entirely obliterate this distinctive personality, and renders a correct articulation of artificial teeth positively necessary to

preserve that individuality so peculiar to many persons there-

After having procured a perfect adaptation of plate or base

fore the more perfect and natural an arrangement of teeth and articulation is procured and preserved, the more complete and harmonious will be that distinctive individuality, which is frequently changed, if not entirely destroyed, by imperfect articulations from artificial dentures.—Dental Cosmos.

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Convulsions from Dentition.—The following given in "Hospital Practice" by Dr. Pepper, in the Medical & Surg. Reporter, is interesting and instructive, and affords matter for thought, both in the facts given, and in the suggestions made.

The subject] of dentition and the pathological conditions that are dependent upon, or influenced by it, is one that is entirely too much neglected by dentists.

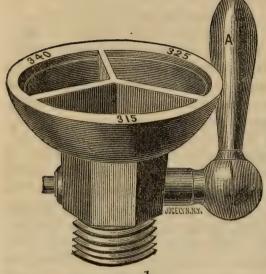
We hope the time is near at hand in which attention, study and investigation will be given by dentists to all things that exercise a controlling or modifying influence upon that department of the healing art with which they stand more immediately connected.

A child, 23 months old, up to eight weeks ago healthy, was taken with violent convulsions, which continued constantly for three weeks; the child is now paralyzed; no power of locomotion; loss of speech; evesight unimpaired; is apparently imbecile; keeps its hands and its head in constant motion, and gazes about with a vacant stare. We have here the result of reflex irritation of dentition upon the brain, and, probably an effusion of blood or fibrin at the base of the brain. The prognosis is not unfavorable; the child is young; the deposit or effusion may be absorbed, and the brain be relieved of the pressure upon it. But in the treatment, care must be taken in regard to internal remedies. The remedial powers of nature, in cases of this character, are great, and some would, perhaps, trust to nature entirely; but the judicious administration of the proper remedy will, I think, aid nature in restoring the deranged functions. I should, therefore, advise the use of iodide of potash, in doses of half a grain, three times a day, believing this to be the remedy required. And further than this I should not go at present; it is too early in the case to give other medicines.

THE NEW ANASTHETIC-KEROSELENE.--We have before us a phial of liquid, colorless like water, and possessing a strong permeating smell not unlike chloroform, but with other qualities peculiar to itself. This liquid is Keroselene, and as it is at present attracting considerable attention in the medical world as an anæsthetic agent, we can not do better than give our readers some account of it. Keroselene is a volatile product, arising from the final distillation of petroleum, or coal-oil; chemically it is a pure liquid, hydro-carbon, its specific gravity being lighter than that of any other known liquid. The peculiar properties of this liquid were first observed in the manufacture of kerosene oil; as the men engaged in the department where the keroselene was formed, were frequently found in a partially anæsthetic condition, and similarly affected to persons under the influence of "laughing gas." The gentleman to whom we owe the discovery of a mode of purifying keroselene to such a point as to render it a useful anæsthetic, is Mr. Joshua Merrill, superintendent of the "Downer Kerosene Oil Co.," Boston, Mass. Mr. Merrill presented a specimen of this liquid to the "Boston Society for Medical Improvement," when on a cursory examination, Dr. H. J. Bigelow pronounced it in his opinion "as strong at least as ether, tasteless as water, while its vapor is no way irritating. On the contrary, its flavor is agreeable, and resembles a dilute chloroform, with a whiff of coal-tar or creosote. It is also abundant and cheap (one dollar per gallon.) If this is an anæsthetic of the character it seems to be, at once effectual, agreeable, tasteless, without subsequent flavor or odor, it will supersede ether; and it has certainly at this moment a remarkable air of promise." The new agent was then referred to the hospital surgeons for experiment, and on motion, Dr. Bigelow was requested to draw up a report of the results of their investigations. In the New York Medical Times, Dr. Cutler, of Woburn, Mass., related some experiments made with keroselene, which were completely successful. It had also been used externally in neuralgia. Dr. Big. elow, of Boston, afterward experimented upon himself and upon various surgical cases, and proved its anæsthetic properties, though in one or two instances there was tendency to asphyxia and convulsions. There is but little doubt, however, that when prepared pure, this will prove an invaluable anæsthetic.—N. Y. Dental Journal.

## Editorial.

FUSIBLE GAUGE.



cur 1.



CUT 2.

The annexed cuts represent "Franklin's Fusible Gauge," to be used on vulcanizers; instead of the ordinary thermometer. The apparatus is very simple, and easily managed by any one who is familiar with vulcanizing machines. It consists of a brass cup, about two inches and a half in diameter, divided into three compartments; into each of which is placed a fusible alloy, that in each

one differing in point of fusibility from the others, one melting at 315°, the next at 325°, the next at 340°.

Either up through the center of the cup, or through the shaft below it, is fixed a safety valve; the arrangement of this is the same as that used with the common vulcanizers.

We will give the directions for its use in Dr. Franklin's language.

"When the alloy in the compartments marked 315 has become granular, the temperature in the vulcanizer is 295 degrees; as it changes from the granular-to a

mushy condition, the heat has increased to 310 degrees. This is the true vulcanizing heat for two and a half hours, and when it has

become fluid, the heat has increased to 320 degrees, which is fully demonstrated by a comparison with the best Standard Thermome-

ters and Steam Gauges.

"The alloy in the compartment marked 325 begins to be granular at 320 degrees, and in that condition a pointed instrument can be forced into the center of the alloy, while the outer portion remains firm. This is the true vulcanizing heat for one and a half hours. This alloy loses its granular condition and becomes mushy at 330 degrees, and when fluid, the temperature of the vulcanizer is 340 degrees.

"The alloy in the compartment marked 340 is of little practical value except to indicate an extreme degree of heat. It is slightly

granular at 340, and fluid at 360 degrees."

We have used this guage for a short time, and think it equally as good as the thermometer in all respects, and much better in some, the chief of which is, that it can not get out of repair. All who have used the ordinary thermometer are aware of the liability to breakage, and the risk incurred thereby; with this there is no breakage. The only change that one can at all imagine, would be the change in the composition of the metals occasioned by the frequent melting; this will, however, be very slight. Dr. Franklin remarks that he has used it daily for eight months, and finds no change in the metals by oxydation; that being the case, there can be no objection on account of its change, and even if it did change once every six months, so as to destroy its efficiency, one or two cents would supply a new piece of metal. Only one of these is fused at a vulcanizing heat.

It is possible that a current of cold air, or a jet of steam, from the safety valve, might interrupt slightly the perfect action of the heat upon the metals; that, however, can be guarded so as to occasion no annoyance. Perhaps on account of the escape of steam, it will be better to have the safety valve below the cup, as in cut 1—in that the steam is not so likely to come in contact with the fusible metals. A very little practice with this gauge will enable the workmen to attain the same accuracy as with the most perfect thermometer.

We vulcanize our work in one hour after the alloy marked 315° is perfectly fused; we run the heat up, however, till the metal in 325° is in a very soft, mushy condition, almost in a fluid state. A little experience will enable any one to use it with perfect accuracy.

The instrument will probably be for sale at all the Dental Depots, but for the present it is furnished by B. W. Franklin, No. 73 Bleeker st., New York. Price \$3.00.

In ordering these gauges, it is well to specify the kind of heater upon which they are to be used.

Duplicate pieces of metal are always sent with the gauges.

T.

#### RUBBER WORK.

WE are often asked, "Do you still use rubber work," to which we reply we do, and hope to continue to do so; indeed we could not well get along without it. There are cases for which it is far better than anything else. We do not now propose to specify the peculiarities of those cases for which it is especially adapted; that may be done hereafter.

We use gold, continuous gum and rubber work in nearly equal proportions. When a case is presented, the operator should examine and decide what would be best, and give the patient the result of his judgment; in this, of course, the patient should acquiesce, if there are no considerations rendering a different course necessary.

There are two or three points in reference to rubber work, about which little or nothing has been said, that are worthy of attention. One is in regard to vulcanizing pieces of different thickness: the thick require considerable more time in the vulcanizer, under the same degree of heat, than a thin piece. This will be governed by the thickness of the piece, of course, and should be closely observed by the workman.

There is a very common opinion that rubber work can not be repaired when broken, or it is comparatively worthless if it is repaired; this is certainly not correct, for we find almost every kind of breakage as easily mended in rubber work as any other, even to the splitting in two of an entire plate—which, however, if the work is well done, will not occur—such we have seen and repaired, too, making them quite as good as before broken.

Teeth that are broken off may be replaced, and fractures mended, about as well as with any other kind of work. The most difficult pieces to mend are those that are very thin at, and in the vicinity

of the fracture; but there is little difficulty with them; little grooves may be cut from the fractured edges into the plate, or little holes may be made through the plate a short distance back from the fractured edge; then the rubber may be made to overlap the entire fracture, passing through the grooves or holes, and just make the piece as firm as ever. It will add something to the thickness; this, however, is the case with any kind of mending.

But the facility with which this work may be mounted, renders the mending in many cases less imperative than the other styles of work. The teeth can be removed without injury, and remounted as perfectly as at first; and more than this, if an impression of the mouth can not be obtained, the old piece may be used as a model from which to build the new, if there is not too much change in the mouth of the patient. This would only be necessary in extreme cases. The objection is made to rubber work, that so few dentists make it, that difficulty is experienced in getting it repaired or changed except in the cities. The reply to this is, that if rubber work is good, every dentist should be in possession of the process. A dentist remarked recently, "Well, I think there is nothing so good for all cases as gold, and so I will stick to the old stand-by; I don't like new things any way, they are generally humbugs." We have about the same respect for the opinions of the man who distrusts and refuses every thing, because it is new, and tenaciously adheres to an old thing, or process, because in some cases it is good, and he knows its ways and tricks; as for the opinion of him who discards everything because it is old, and mounts every new thing that comes along, regardless of its merits, and rides it, hobby-like, with a zeal that knows no bounds, until he is thrown off, or till some newer thing comes along, when he dismounts and mounts again. The true course is to select that which is valuable. whether new or old, and use it. T.

#### TREATMENT OF ABSCESS.

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It has been suggested that in the treatment of alveolar abscess, the persulphate of iron may be employed with very desirable results; being used in the same manner as creosote for the same purpose. The channel is opened freely with the lancet to the bottom, and all extraneous substance removed by washing, swabbing, etc., and then painting the entire inner surface with the sulphate. This cauterizes the surface, and forms coagula soon. After this healthy sloughing takes place and granulations spring up and the opening is soon closed. This remedy is worthy of trial. T.

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#### HYPERTROPHIA OF THE PAPILLA OF THE TONGUE.

In February last we had occasion to visit a patient—a child about four years old,—with an affection of the tongue, which we designated as above. It possessed apparently a good constitution, and never had any sickness, except an abscess, which was formed just back of the right ear, which involved the neighboring parts to a considerable extent. This was when the child was about three years old, and it continued a few months, when the child was entirely restored. The tongue was coated over from the tip to its base, and completely from side to side, with what seemed to be enlarged or elongated papilla, to the depth of about one line. The termination at the border was abrupt, the thickening about as great there as in the centre, except that part at the base of the tongue, where it was quite thin. At the sides and the point of the tongue, the growth folded over somewhat.

On June 25th I saw the case again, the growth was evidently being removed, the base of the tongue was cleared about two lines in extent, the sides and tip also showed signs of clearing; the growth is very white; the tongue where cleared has a beautiful healthy appearance. The affection occasions no difficulty to the child, neither general or local, so far as health is concerned; its appetite is normal, the acts of mastication and deglutition are well performed. It does not yet talk, however; whether this is occasioned by the affection, or is a natural tardiness we are not able to determine. The child is now, Nov. 1st, five years old. As to the cause of this affection we are entirely ignorant—do not attempt to make a supposition or a suggestion.

There is no cachectic diathesis apparent either in the child or parents. The case was for a time in the care of Dr. Greenleaf, of this city; he first saw it in February, and had charge of it two months. At first it bled freely upon being touched, and had

some indication of a malignant'affection, and was supposed to be so by two or three physicians who saw it. Within a few days after Dr. G. saw it, the mucus membrane of the cheeks and roof of the mouth assumed the same whitish appearance, though without the thickening exhibited upon the tongue.

The tendency to hemorrhage from the growth on the tongue was arrested by the use of persulphate of iron; after using this for a few days, changed to the perchloride of iron. Iodide of ammonia was administered three times a day for two or three weeks, with no apparent improvement of the tongue; but the mucous membrane of the cheeks and the roof of the mouth was restored to a healthy condition. Small doses of calomel were daily administered for a time without producing any apparent change upon the affected parts. Other treatment was employed but without any special result. A gradual improvement seems to be going on; the posterior third of the tongue is almost entirely clear, the margins are more free than heretofore, and the entire coatings thinner, and its surface broken up by sinuosities. The case is entirely new to us, and we should be glad to have suggestions in regard to it. T.

#### THE REGISTER.

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WE have on hand a complete set of the back volumes of the Dental Register, neatly bound, which we will sell for \$3 a volume. This is the only set we are aware of that is obtainable. With us, except this, several of the earlier volumes are exhausted. For these, or subscription to the Register, we will take old gold, or platinum scraps, as readily as cash. For the latter we will pay \$4.80 an ounce, and for gold according to the quality.

J. TAFT.

#### DENTAL DEPOT.

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WE take pleasure in referring to Dr. J. M. Brown's Dental Depot, as one in which a fine stock of dental goods may at all times be found. This is the oldest Dental Depot in the West, and from the Doctor's long and ample experience in the purchase and sale of dental goods, he can come as near anticipating the wants of the

dentist as any man we wot of. The Doctor's recent illness somewhat interrupted his close personal attention to the store, but his assistant, Mr. H., a man of undoubted ability and efficiency in that line, is always on hand. We are pleased to know that the Doctor is now able, and will henceforth give his closest attention to supplying the wants of his patrons.

T.

#### PATRIOTIC.

Our neighbor and professional brother, Dr. T. F. Davenport, has through a desire to serve his country in troublous times,

Laid down the Plugger and the Forceps
And taken up the gun and the sword.

(That's blank verse.)

We are sorry to lose the Dr. from our ranks, but presume he felt inclined to the performance of the "larger duty;" and we have the fullest confidence that his going forth will not be in vain.

May a shield of protection be over and around him. T.

## PERSONAL.

Dr. M. Wells, of Indiana, recent Demonstrator in the Ohio College of Dental Surgery, has returned to this city, and opened an office, intending to make this the field of his future operations. We are much pleased that he has become one of us. He is one of our growing dentists: he will not go to seed in a year or two. Success attend him.

## GIBSON HOUSE.

WE take pleasure in directing attention to the Gibson House, because it abounds in all the elements of comfort and pleasure, to those who choose to become its inmates. Its arrangements in every particular are unexceptionable. We are pleased to see that it has become a kind of headquarters for the members of the dental profession visiting the city, and we can assure all that they will find no more pleasant and comfortable stopping place in the city, especially while it is under the auspices of our noble and patriotic citizen, Col. Geoffroy. This is the House at which if one stops, he will be quite sure to stop again.

## THE

# DENTAL REGISTER OF THE WEST.

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# Original Essays and Communications.

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## CALCIUM AND ITS COMPOUNDS.

CALCIUM, Ca=20.—From force of habit we are apt to regard the metals as derived solely from the inorganic kingdom of nature. The one now under consideration, however, like several others, is found in both divisions of the organic. This metal, indeed, performs no inconsiderable part in the great play of life; and, when this is borne in mind, an intimate acquaintance with it and its compounds can not be otherwise than interesting.

Though so abundant and so extensively diffused, it is not found uncombined. Its strong affinity for the highly electronegative elements, such as oxygen and fluorine, and the difficulty with which it is separated from them, explains the fact of its recent discovery. Its existence was unknown till the early part of the present century.

Calcium is a yellowish white metal, having the color and luster of gold heavily alloyed with silver. Its luster is soon tarnished by the oxygen of the atmosphere, especially in damp air, when its yellowish tinge is more perceptible. It is ductile and malleable, and about as hard as silver. It burns with a bright flash, when heated on platinum; and, when heated, burns brilliantly in oxygen, chlorine, iodine, sulphur, etc. It decomposes water rapidly, with the evolution of hydrogen

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and the formation of hydrate of lime. Calcium is usually obtained by decomposing its chloride by galvanic action. Its specific gravity is about 1.58; and it melts only at a high temperature. On account of its strong affinities, the metal is of no use in the arts; and as there are other and more convenient deoxydizers, it is but little used in the laboratory.

LIME, CaO=28.—Calcium forms two compounds with oxygen, the protoxyd and the binoxyd. The former is called lime, and is extensively used both in the laboratory and the arts. It is commonly obtained by heating the carbonate of lime to redness in lime-kilns. For use in the laboratory it should be prepared from calcareous spar, or fine marble, by heating in an open crucible. When thus prepared it consists of porous masses of a white color, sufficiently cohesive to bear transportation, and two or three times as heavy as water. Lime is infusible in the furnace, and but partially fusible in the oxyhydrogen flame. It is a strong basic oxyd, and turns reddened litmus blue. It has a strong affinity for water, and is used to separate this liquid from alcohol and kindred substances.

Hydrate of Lime, CaO, HO=37.—When water is thrown upon massive lime, as prepared above, it is first imbibed, as it would be by other porous bodies, but soon unites chemically with it, forming a new compound. The lime falls to powder, greatly increased in bulk, and is then said to be slaked. And it is worthy of notice that though twenty-eight parts of lime have united with nine of water, there is no moisture present. By combination, the water has become a part of a dry solid. And, in accordance with a universal law, that when a liquid is condensed into a solid, latent heat is liberated, and an increase of temperature is the result, by the slaking of lime, sufficient heat is evolved to char wood, and even to produce actual ignition. By the slaking of one equivalent, or twenty eight parts of lime, as much heat is liberated as would raise the temperature of one part of water 1212°.

Hydrate of lime is slightly soluble in water, and is one of

the few substances more soluble in cold than in hot water. One grain of the hydrate is held in solution by 778 grains of water at 60°, while it requires 1270 grains of boiling water to accomplish the same result. By slowly evaporating the solution in vacuo, small transparent hexahedral crystals of the hydrate may be obtained.

Limewater is readily prepared by adding an excess of the hydrate to distilled, or clean rain water, and repeatedly agitating the mixture for a few days. When left to settle, the excess falls to the bottom, and the clear solution may be care-

fully decanted, or drawn off with a syphon.

Lime-water absorbs carbonic acid from the atmosphere, and becomes covered with a thin pellicle of carbonate of lime. A portion of this carbonate also falls to the bottom of the vessel, in the form of powdered chalk When hydrate of lime is for a long time exposed to the atmosphere, a half an equivalent of carbonic acid is absorbed by it, and a definite compound of the carbonate and hydrate is formed, as represented by the formula, CaO, CO<sub>2</sub>+CaO, HO.

Lime-water is often a valuable remedy for an acid state of the secretions. Often when the local use of alkaline carbonates fails to arrest an acid state of the secretions of the mouth, the internal use of lime-water, for a few days or weeks, acts like a charm. We usually prescribe it in teaspoonful doses three times a day, after eating, though, of course, the dose must be varied to suit the age of the patient and the peculiarities of the case. And, as most dentists are not physicians, it will be advisable to act through, or obtain the consent of the family physician. The taste of lime-water is too harsh and acrid to admit of its use as a local remedy, in acidity of the mouth; but this is not to be regretted while the carbonate of lime—prepared chalk—accomplishes all that it could.

CARBONATE OF LIME, CaO, CO<sub>2</sub>=50.—This salt, sometimes pure, but often commingled with other substances, is found abundantly in nature. It exists in the forms of calca-

reous spar, marble, chalk, limestone, etc. As thus found, the salt is anhydrous; but a hydrated carbonate of lime may be obtained, by slightly heating together 1 part of hydrate of lime, 6 parts of water, and 3 of sugar, filtering the solution, and exposing it, for a week or two, to the atmosphere, in a shallow vessel. The carbonic acid is obtained from the atmosphere; and the hydrated salt crystallizes with five equivalents of water. The crystals are acute rhombohedrons.

Carbonate of lime is nearly insoluble in pure water, but dissolves, to a considerable extent, in water charged with carbonic acid. On this account it is generally present in the water of wells and springs, and is precipitated from it by boiling, which expels the excess of carbonic acid. The same result takes place when the water is evaporated at low temperatures, or even when it is exposed to the atmosphere. For example, when the water flows over wood, or other destructible substances, the forms of these substances are preserved in calcareous deposits of carbonate of lime. When a current of carbonic acid is forced through lime-water, the lime is precipitated in the form of powdered carbonate; and if the supply of the acid is kept up, most of the powder will be redissolved.

On account of the elasticity of carbonic acid, the carbonate of lime (as well as other carbonates) is easily decomposed by the application of heat, or a less volatile acid. In the ordinary preparation of lime, the heat simply drives off an equivalent of carbonic acid. If, however, the carbonate be hermetically sealed in an iron tube, and heated, it may be fused without undergoing decomposition. If the tube is cooled slowly, the salt crystallizes, and resembles marble.

Carbonate of lime performs important offices in the animal economy. It is an essential constituent of the bony tissues, and the principal ingredient of the shells of mollusks. As a constituent of the teeth, it is interesting to the dentist. All acids capable of acting on the calcareous portion of the tooth, decompose the carbonate, liberating the carbonic acid. In other words, the action of an acid on this salt in the tooth,

differs, in no respect, from its action on the same salt in any other situation. Hence, with hydrochloric acid, chloride of calcium is formed, with sulphuric, sulphate of lime, and so on, through the entire catalogue of acids capable of corroding the teeth.

It would be interesting to inquire how this salt is introduced into the system. True, most men and other animals drink water strongly impregnated with it; but it is quite probable that much of it is formed from other salts of lime, introduced with vegetable food. It is the opinion of most physiological chemists that free carbonic acid may be found in all the animal fluids; and, if this be true, they would have no difficulty in holding the carbonate in solution, ready for assimilation.

SULPHATE OF LIME, CaO, SO =68.—When sulphuric acid is added to any soluble salt of lime, this salt is precipitated, as a bulky white powder. It is also found in nature, in two conditions. When composed as indicated in the above formula, it is called anhydrite; but it is found more abundantly in combination with water, as represented in the formula, CaO, SO+2 HO, when it is called gypsum, or plaster of Paris. Gypsum, or the hydrated sulphate, is more important and interesting to the dentist than the anhydrous.

Sulphate of lime is but slightly soluble in water, nearly five hundred grains of the liquid being required to dissolve a single grain of the salt. It fuses at a strong red or white heat, without decomposition; but when thus heated in contact with charcoal, its oxygen is all expelled, and the protosulphide of calcium, CaS, is formed, which is a whitish salt, nearly insoluble in water.

The native gypsum is broken into small fragments, and heated in ovens or kilns, to a temperature of 240° to 260°, and afterward reduced to powder. It is then the "plaster" of our laboratories. When heated to 300°, or with some specimens, even to 270°, it parts with all of its water, and fails to recrystallize when mixed with water, and, therefore, becomes useless in the laboratory.

Much of the gypsum found in nature is impure. That found in the vicinity of Paris, according to Regnault, contains,

Sulphate of lime	70.39
Water	
Carbonate of lime	
Clay	
100.00	

Other foreign substances are found in some specimens, which may account, to some extent, for the imperfect recrystallization of some varieties of plaster. The gypsum must have the proper composition, and must be properly calcined, in order to obtain a perfect plaster. When thus prepared, if the plaster is mixed with water, to the consistence of a thin paste, a chemical union takes place between the water and the sulphate, by which the paste is converted into a solid mass of gypsum. This crystallization is commonly called setting. In setting, plaster expands slightly, and is thus forced into all the inequalities of an ordinary mould. The degree of expansion differs with different varieties. The experiments of Prof. Buckingham, as reported in the Dental Cosmos, are the most satisfactory of any we are aware of, with reference to this expansion, and we refer the curious to them. It is satisfactory to know that it is of no practical importance in the dental laboratory.

When plaster sets, the combining water is condensed from a liquid to a solid; and, of course, latent heat is liberated. The consequent elevation of temperature is quite perceptible, but is less than when hydrate of lime is formed.

Pure crystallized gypsum is sometimes called *selenite*; and a white compact variety of it, used in statuary ornaments, is called *alabaster*.

The various uses of plaster, and the modes of using it in the dental laboratory, belong to the mechanic, rather than to the chemist. Fortunately there is no lack in this direction, and we, accordingly, refer the reader to resources already familiar to him. PHOSPHATE OF LIME, 3 CaO, PO<sub>5</sub>=156.—Phosphoric acid and lime unite in several proportions; but it is not intended to notice specially, in this connection, any but the salt indicated by the above formula, which is a sub-phosphate, and is commonly called, for sake of definiteness, bone phosphate.

Bone phosphate may be formed artificially, by adding a solution of chloride of calcium to a solution of the rhombic phosphate of soda; but as it exists abundantly, ready formed in bones, it is usually obtained from this source. When bones are fully calcined in open vessels, the organic matter is all driven off, and a white ash remains. Bone ashes are usually composed of four-fifths of sub-phosphate, and one-fifth of carbonate of lime. For separating the two salts, the process of the Dublin College is as convenient as any other. ash is reduced to powder, and dissolved in highly diluted hydrochloric acid. When the acid is saturated, the solution is filtered, and ammonia is added as long as a precipitate is Afterward, wash and dry the precipitate. thrown down. The carbonate of lime contained in the ash is decomposed by the action of the hydrochloric acid, as indicated by the following formula,—CaO, CO +HCl=CaCl+HO+CO2.

The carbonic acid, being liberated, escapes as a gas, and the chloride of calcium, being highly soluble, is easily removed by washing. The precipitate is the subphosphate under consideration.

This salt is a white, tasteless, odorless, gritty powder. It is insoluble in water, but dissolves in hydrochloric, nitric, acetic, and lactic acids, without decomposition, and may be precipitated from its solution in any of these acids, by the alkalies or their carbonates. At a very high heat it fuses without decomposing.

As this salt is the principal earthy ingredient of the teeth, an accurate knowledge of its properties and affinities is of vast importance to the dental surgeon. And it is worthy of notice by all that, in the formation of the teeth, and osseous tissues in general, the great Creator selects, as the principal solid

constituent, a salt so permanent in its composition—a salt that can sustain white heat, or solution in the most active acids, without change.

In the study of the chemistry of caries, this salt and the carbonate are the only solid ingredients of the tooth necessary to be taken into consideration; for the others are present in such small quantities that they produce no practical or observable results. And it is time that all notions about other acids displacing the phosphoric, and taking the lime, were abandoned; for no acid directly concerned in the production of caries takes the lime from the phosphoric, unless it be sulphuric acid; and it can do so only in favorable circumstances. But they do take the lime, and the phosphoric acid along with it. The direct action of an acid in producing caries, as far as the earthy constituents of the tooth are concerned, is exactly the same as its action on bone ash. It is true the pulverized condition, or porosity of the ash favors the action of the acid, by promoting contact; but if an acid acts at all on the solid constituents of the tooth, it acts precisely as it does on the same substances out of the mouth. Let it be borne in mind, then, that hydrochloric, nitric, lactic and acetic acids, all dissolve the phosphate of lime, that is, they combine with it, forming soluble compounds, while the same acids decompose its accompanying carbonate. The action of these acids should be understood and remembered, for the teeth are oftener destroyed by them than by any others.

Writers on Therapeutics sometimes express a want of confidence in the efficacy of this salt, as a remedy for a lack of it in the system, on account of its insolubility, apparently forgetting its high degree of solubility in hydrochloric acid, which is present in the gastric juice.

That the phosphate of lime performs important offices in the animal economy, may be inferred from its extensive diffusion through the system. According to Lehmann, "there is no animal tissue in whose ash, or incineration, we do not find phosphate of lime." And the importance of furnishing an abundant supply of it in certain conditions of the system, either in the food, or otherwise, is worthy of the most serious attention; but to pursue this vein would lead beyond the range of the present paper. Lehmann, vol. 1, p. 374, says: "We need hardly remark that rachitis frequently, if not always, occurs simultaneously with the period of dentition, that the consumption of phosphate of lime during pregnancy is often so great that scarcely any traces of it can be found in the urine, and that, during this period of woman's life, fractures unite with extreme difficulty, and sometimes do not unite at all."

The proper consideration of this salt, in all its relations to dental surgery, would require a separate paper.

Hypochlorite of Lime, CaO, ClO=71.—This salt is extensively used in bleaching. When milk of lime, in excess, is added to a solution of hypochlorous acid, it is obtained pure. The commercial chloride of lime, often called bleaching powder, is a mixture of hydrate of lime, chloride of calcium, and hypochlorite of lime. It is usually prepared by passing chlorine slowly over hydrate of lime. The reaction which takes place may be represented as follows:

2 CaO+2Cl=CaO, ClO+CaCl.

An excess of lime must always be present, for if the supply of chlorine is continued after the lime is all changed into chloride of calcium and hypochlorite of lime, the hypochlorite is decomposed, with the formation of chloride of calcium and a chlorate of lime, thus:

3 (CaO, ClO)=CaO, ClO<sub>5</sub>+2 CaCl.

The hypochlorite of lime and the chloride of calcium, being soluble, can be readily separated from the hydrate of lime by washing. According to Graham, ten parts of water take up the bleaching combination of one part of the commercial chloride; but, of course, the proportions must vary, for some specimens contain a much greater excess of the hydrate of lime than others. The solution thus obtained has the odor of hypochlorous acid, an astringent taste, and an alkaline reaction.

It decomposes most organic matters, containing hydrogen, and, therefore, destroys most coloring matters.

Hypochlorite of lime is not a permanent compound. Most of the acids decompose it, taking the lime. The carbonic acid of the atmosphere acts in this way; and the consequence is, that hypochlorous acid is constantly liberated. Even the acid is not permanent, but is slowly decomposed, at ordinary temperatures, with the evolution of chlorine; and this decomposition is greatly facilitated by exposure to light.

In bleaching with this salt, a number of reactions occur. The lime may be regarded merely as the pilot, or engineer, that conducts the acid to the place where its action is desired. Its direct action in promoting or retarding the bleaching process is of no practical importance. Chlorine has long been recognized as the great bleacher; but disputes have arisen as to how it bleaches. Some maintain that, by its affinity for hydrogen, it decomposes water, and the liberated oxygen, with the advantage of its nascent condition, does the bleaching. Others claim that it takes the hydrogen of the coloring principle, and thus bleaches directly. But there is no occasion for dispute; for both positions are correct. And this may enable us to understand the reactions of bleaching by hypochlorite of lime, or, in other words, by hypochlorous acid.

It has been stated that the hypochlorite is constantly giving off the acid; and, also, that the acid itself is decomposed under all ordinary circumstances. Now, bearing in mind that this acid is composed of one equivalent of oxygen, and one of chlorine, by its decomposition, these active elements are simultaneously liberated, having equally the advantage of the nascent state, and, therefore, far more energetic than if previously free, the oxygen spends its force by taking the hydrogen and carbon from the coloring principle, while the chlorine either takes hydrogen from the coloring matter, or from the water present, in which case another equivalent of nascent oxygen is set to work. From this it will be seen that

one equivalent of hypochlorite of lime (containing, of course, one equivalent of hypochlorous acid) has as much bleaching power as two equivalents of free chlorine, or two of nascent oxygen.

With these principles understood, the dentist can readily appreciate the action of the hypochlorite in bleaching teeth. It is pretty generally conceded that the coloring principle here is hematin, the composition of which is, C<sub>44</sub>H<sub>22</sub>N<sub>3</sub>O<sub>6</sub>Fe. By a single glance at the formula, it will be seen that the chlorine may take its hydrogen, or the oxygen, both its carbon and hydrogen.

The hypochlorite is also valuable as a deodorizer; and it acts, in this direction, by virtue of the same properties and affinities which govern its action as a bleacher.

The remaining salts of lime, such as the nitrate, chlorate, etc., are not possessed of sufficient interest to be noticed here; and as there is no effort at system in this paper, the consideration of them is omitted.

CHLORIDE OF CALCIUM, CaCl=55.—By dissolving carbonate or hydrate of lime in hydrochloric acid, chloride of calcium is formed. With the carbonate, the reaction is as follows:

CaO, CO2+HCl=CaCl+HO+CO2.

The carbonic acid escapes as a gas; and the chloride may be crystallized by evaporation. No other compound of chlorine with calcium is known. When a solution of this chloride is strongly concentrated by evaporation, and allowed to cool, large crystals of the hydrated salt are deposited, each equivalent of the salt being united with six of water.

The crystallized salt is very deliquescent; and, when mixed with pounded ice (or snow) by virtue of its great affinity for water, both it and the ice are rapidly liquefied, producing an intense degree of cold, sinking the thermometer, according to some experimenters, as low as 49°.

The crystallized salt is valuable in making frigorific mixtures. It is conveniently prepared by saturating diluted hydrochloric acid with chalk, or marble dust, and evaporating the solution till a drop of it, let fall on a marble a porcelain slab, instantly congeals. The whole mass it then cooled, and the crystals reduced to powder, and put into well stopped bottles.

When heated, the hydrated salt fuses in its water of crystallization; and, at 400°, parts with four equivalents of its water, and forms a porous mass, which has a great affinity for water, and is extensively used for drying gases, and other kindred offices in the laboratory. It fuses at a red heat, having parted with all its water. The fused chloride has a strong affinity for water; and a large quantity of latent heat is liberated by its combination with that liquid.

Chloride of calcium is among the most soluble of salts; and as it is one of the salts formed by the action of hydrochloric acid on tooth-bone, it will be readily understood how it is that acid dissolves out the earthy matter, leaving the organic. It is also soluble in, and forms a definite compound with alcohol.

FLUORIDE OF CALCIUM, CaF=39.—This compound is found in nature, sometimes in well defined crystals, and at other times in solid masses of various, and variegated hues. It is often called fluor spar. When reduced to powder and heated, it becomes luminous far below a red heat, evolving a violet, or green light. This fluoride fuses at a red heat, without decomposition, and is acted on but slightly by nitric, or hydrochloric acid, but it is decomposed by sulphuric acid, aided by a gentle heat. Its principal use in the laboratory is in the preparation of hydrofluoric acid. It is used in the arts in forming vases and ornaments.

W.

## CONCERNING DENTAL LITERATURE AND DENTIST-RY IN GENERAL, AND DR. ALLEN A LITTLE.

BY WM. A. PEASE.

THE lassitude and disinclination for labor and mental activity, arising from the heat of the summer, is past. are shortening, the evenings lengthening, and the hours in which the dentist is exempt from laboring at the chair are materially increased. With this exemption from active daily duty come other and equally as important duties, which should receive his serious attention and occupy that time, which, but for the shortened days, he would devote to his patients. Indeed, this additional labor is justly their due, as it is also due to his profession. It is due to them in the acquisition of a more extended and varied education, which will enlarge his sphere of influence and usefulness as a dentist and a man. It is due to his profession, not only as to the additional weight and importance he will thereby give it, but also, in furnishing it the record of his accruing experience and the result of his more mature deliberations. Thus, however much he may be inclined to ease, or whatever attractions society may throw around him, he should enjoy them but temperately, and reserve his best powers for his profession and the serious duties of life. It is, indeed, a self-denial, after the labors of the day; when the muscles are weary, the system relaxed, the nerves depressed, the blood is but half ærated, and the lungs are laboring heavily to throw off the impurities and the extra carbon of the system and that acquired from the breath of others, when he feels an instinctive desire, almost amounting to a necessity, to go out from his office; and casting care and thought away, to revel awhile in mere automatic existence: and when he feels that if he could but do it, and inhale the breath of Old Boreas, whose teeth are icicles, from whose huge lungs comes nothing putrescible or aught but purity: that every nerve would titillate and laugh to exhilaration; at such a time it is indeed a self-denial to sit down quietly in

the office and compose himself for study or the toils of composition; and in the language of Virgil, though spoken of a very different place and different kind of labor, it can truly be said—hic opus—hoc labor est.

It is with emotions such as these that the writer of this relinquishes a walk in a beautiful moonlight evening, to discharge a duty to himself and his profession, which he feels has been very unnecessarily, wantonly, and perhaps maliciously thrust upon him, for no other purpose than to injure him and gain a selfish end. If, under these circumstances, during the course of this article, he should sometimes write with an earnestness and point that his cool and comfortable readers may think somewhat warm, he begs of them to recollect the moonlight, the cool and bracing air without and the gas light and stifling air within.

A professional man is a member of one of the learned professions. By reason of that membership he is supposed to have a knowledge of the learning of that profession, of the English language, if it is his native tongue, and also, to have a liberal or classical education. The acquisition of that knowledge is supposed, by virtue of its eliminating, elevating and ennobling properties, to have raised him above the standard of ordinary men; to have made him despise all meanness, trickery and pretense; to love truth and abhor falsehood or its semblance, and to have become a fit companion for learned and honorable men. As his education and associations are high, his conduct should be equally elevated, and free from all the tricks and petty devices that might be tolerated in members of a craft or trade; but which, on him, will leave an enduring and damaging stain. Educated to this high point, his sensibilities are acute and his perceptions of conduct clear and quick; he will accordingly dread as much any act, or the utterance of a word that could subject him to the curl of a lip, a just criticism, or a sarcasm, as a thief would the bastinado. If, rising above the ordinary duties of his profession, he essays to become a teacher, a professional censor, or to discharge the more difficult role of a reviewer, it is supposed he will bring to his vocation a more varied education, a more laborious and thoughtful preparation of his article, in order that he or his profession may suffer no detriment from his negligence or ignorance. Thus it will be perceived that the qualifications necessary for a professional writer or teacher are not light or easily attained; and that the responsibilities incident to the discharge of such vocation rest heavily upon the strongest shoulders. If such are the responsibilities of an ordinary member of a profession, how much greater are those of one who acts in a representative capacity as the first officer of a learned society or a professional convention, which must be honored or dishonored in the eyes of the world by his conduct, and from whom, at least, it has a right to expect, in his recorded utterances, words of weight and of wisdom!

In calling the attention of the profession, in a previous number of the Register, to a review of an article of mine, by Dr. Allen, I acted on the belief, founded on the internal evidence of the review, that the unusual manner of quotation and commenting on the article in review arose from ignorance and a mistaken idea of the duties of a reviewer, and not from ill will or a desire to misrepresent or injure me. His object was purely selfish. He wished to discredit me as a writer, because I had stated that dentistry, as a profession, was of recent origin. That the manufacturers of artificial dentures were mechanics, at least for the time being, and that single gum teeth on gold plate made the best practical artificial denture yet devised. His apparent objects in trying to discredit these statements were several. In addition to his other duties, he was largely engaged in the manufacture of artificial dentures, which made him unnecessarily sensitive on that point; and he held the patent right for the manufacture of that kind of artificial denture called continuous-gum, which he evidently thought would be in a very bad way until that article was discredited, if it had not already gone into a de-

cline. Hence his first review, of which some of the errors and quotations have already been noticed and commented on: and hence the second, in which he has not only retained the objectionable manner of quotation of the first, but he has absolutely degenerated both in matter and style; and so faulty is his language and his grammar, that he seems to have forgotten that he was writing for English readers. It is difficult to conceive how a man of ordinary sensibility, after his attention had been called to his violation of the commonest decencies and rules of a reviewer, should subject himself to a severer criticism by continuing the same practice in a succeeding number. But such is the case in the present instance. It looks badly. It looks more as if it was done after a cool calculation, than from ignorance or inadvertence. As if he had diligently studied the article he was reviewing, and selected from it in different places, paragraphs, which, separated from the context and brought together, aided by adroitly interposing a sentence of his own here and there; that implied rather than declared, would best serve his purpose and lead the casual reader to suppose that the kind of artificial denture I had recommended for its superiority I had also condemned in the same article. Indeed, in a subsequent sentence he actually makes this declaration; unless there is a typographical error, which is not to be presumed. Even if this were so, what advantage it would be to Dr. Allen it is difficult to conceive, as it would only show an unbecoming negligence in writing, or a typographical error. But the reader will say, grant all this to be so-grant that, allowing his interest to overshadow his judgment, in his anxiety to write a telling review and make the best display possible, his conduct has been exceptionable—a little tricky, and that he has not been governed by those honorable rules that should govern professional men-grant all this, but of what interest is it to the profession? it is simply a contest between you and Dr. Allen, that in no way concerns us. Hold a minute! In this, my dear reader, you are a little too fast. You must recollect that

the character and honor of all professions is the sum of that of their individual members; and that the deliberately published article of a presiding officer of one of its societies or conventions will be taken at home and abroad to represent the highest intelligence and manhood of the members thereof. Take that view of the case; such an article should not be allowed to go abroad without a protest; and neither should it be allowed to appear without a notice, lest it should be taken as a model by some young and inexperienced member. Hence this article.

Here it may be proper to add that no one can be more sensible of the deficiencies of the articles reviewed by Dr. Allen than the writer. The estimate there given of the comparative value of the different materials on which artificial teeth are inserted was written after much thought, and it was finally concluded that, however well individual members may succeed with other materials, taking the average skill of all the dentists (speaking in the popular sense and in deference to Dr. Allen) of the whole country into consideration, that single gum teeth on gold plate would be found the best, and to be the most satisfactory. This was only the expression of individual opinion. It was not calculated to give any one the fidgets, or to develop the globus historicus. And if Dr. Allen or any one else had chosen to state calmly and dispassionately his dissent from it, and to give his reasons therefor, it would have been kindly received as a review taken from a different stand-point, and if conclusive, endorsed. Turning, then, to the quotations of the review, let us see if the spirit which animated them or the ignorance there displayed, whichever it may be, is sufficient to warrant the serious charges here made, for if not, the writer has very much mistaken their tenor and import.

To my enumeration of the advantages and disadvantages of the different methods of inserting artificial teeth and the bases upon which they are made, the Doctor does not seem to take exception; for he says:

vol. xv.-41.

"It is not proposed to discuss the question in this article, but simply give his own statements with reference to this (best) mode of setting artificial teeth; for his alternate views present all that need be said pro and con."

### Dr. Allen's first quotation is as follows:

"It is not surprising that a metal so beautiful as gold, so incorruptible and plastic, and one, withal, of so great intrinsic value, should be considered almost instinctively by the profession and the community as one eminently suitable to be a base for artificial teeth. Alloyed and adulterated as it often has been, until it was sometimes difficult to determine whether it predominated over a mixture of silver and copper; it has nevertheless, maintained its position in the professional and popular estimation. And it is believed that single gum-teeth well mounted upon good gold plate, make the best practical artificial denture that has yet been devised."

To this the Doctor replies: "On the next page but one he spoils his golden picture by the following contra sentence." Contra to what? not surely to sets of teeth on gold, for these we recommend. But here is what he calls the contra sentence:

"A set of artificial teeth is a piece of mechanism—nothing more. It is made of light, frail and fracturable materials; and it is believed that the average duration of sets of artificial teeth will not exceed six years, while many of them are a constant source of trouble and expense from the first."

To which the Doctor says: "If this be true, it is certainly high time that a better method should be adopted." The italics are mine. A better method than what? Not surely than that on gold, for the paragraph did not refer to that. But it did refer to sets of teeth in general—to all kinds of artificial dentures, whether made on gold, silver, platina, or rubber. So that if a better method should be adopted, it must be something entirely new—undiscovered. But this was not what Dr. Allen intended. He wished to have it inferred that if a set of teeth on gold was so worthless, short-lived and troublesome, that those on continuous-gum would be just what is wanted. He would not have a new and better material brought before the profession to supersede all others, for his interests in continuous-gum are too great for that.

The manner of quoting the paragraph under consideration, which Dr. Allen calls contra, is so extraordinary, and it is such a violation of every rule of criticism, that it needs further notice, in order to show to what despicable means a stick-

ler for professional honor can descend. The paragraph was taken from the middle of that part of the article in review. which relates to continuous-gum. It is a part of the subject: used in illustration of it; and designed to show that sets of teeth, called continuous-gum, for reasons given immediately before and after, are not as desirable as those mounted on gold. Hence it related to continuous-gum, if it related to any particular kind of artificial denture; and applied to it all of those undesirable qualities which Dr. Allen would have it give to sets of teeth on gold. And yet, Dr. Allen has had the effrontery and shamelessness to take this paragraph from the place where it belongs, and to which it relates, and to quote it in connection with another part of the article, describing the excellence and superiority of sets of teeth on gold, in order to disparage that kind of dentures, and nullify what had been said in favor of it; for he says: " he spoils his golden picture by the following contra sentence." And then immediately after the quotation, says: "If this be true, it is certainly high time that a better method should be adopted." Can impudence go further?

The two quotations, by Dr. Allen, I have just been considering are at the commencement of a long review. There are others of like character, having his peculiarities, and equally as obnoxious to criticism, which I had, at first, intended to notice; but I find the subject so disgusting and sickening, that I have not heart or stomach to proceed farther. I feel humiliated, as a dentist, that such reviews should have been written, and that they found utterance to the dentists of the world through the dental journals. They certainly are not creditable to the dental literature of America; their effect must be damaging, the more so, as they come from the first officer of a dental convention. With these remarks this article closes, so far as it relates to his quotations.

In the series of articles I have been writing, entitled, Who are Dentists? and which, if time and opportunity permit, I intend to conclude before the advent of another summer, I

called the manufacturers of artificial dentures mechanics. Dr. Allen has seized upon that term, and exhausted his ingenuity in trying to convert it into a disparagement of that kind of labor. This is no more than I might have expected from him; it is fit that it should be done by so able a reviewer, as it rounds off his review to its fit and natural close. Hitherto, I had supposed that the word dentist was self-defining: that it applied to that man who operates on the teeth, or treats them when diseased. Webster defines it as "One whose occupation is to clean and extract teeth, or repair them when diseased." A surgeon dentist is a man who, in addition to the ordinary labors of a dentist, performs surgical operations on the mouth and adjoining parts. A mechanical dentist, or dental mechanic, the terms are convertible, is a man who makes artificial dentures. Unlike the prefix surgeon, the term is valuable in showing what kind of a mechanic the man is. It specifies, determines, and defines. But having determined his position, it by no means follows that that determination carries with it any disparagement or degrada-It simply says that the skill he has, or the labor he performs, is not professional, or such as entitles him to membership in a learned profession, any more than he would be were he a manufacturer of a watch or spoon. The labor and vocation in itself is honorable, as all labor is; and it is a matter of taste as to whether it is not as pleasant and desirable as that at the chair, it certainly is not as responsible. But to prove that I have not underrated the kind or quality of labor performed in the shop, or as Dr. Allen would probably term it, the laboratory, let us enter and see. The first we meet is a man having his sleeves rolled up, sooty and sweaty as any Vulcan, engaged at the fire melting and refining gold; anon he is hammering it at the anvil like a smith; now he is dabbling in moulding sand, like a child making mud cakes in the gutter; again he is using his files and punches or puffing through his blow-pipe, and at last he is scorched to bleareyedness, gazing into glowing muffles, watching the baking of continuous-gum. These are the representative labors of the shop. To say that they are professional is simply absurd—it shocks all common sense. That this is so, the common sense of mankind and the common use of language alike declare. In this connection, I am constrained to produce another authority, even at the risk that it will fall with such stunning weight upon the head of Dr. Allen as to produce concussion of the brain or other cerebral disturbance, and thus increase still more his comatose condition. Webster defines professional to be "The business one professes to understand and to follow for subsistence; calling; vocation; employment; as, the learned professions. We speak of the professions of a clergyman, of a lawyer, and of a physician or surgeon. But the word is not applied to any occupation merely mechanical."

In closing this article, I will only add that while there are too many dentists who are bad pluggers, and who exhibit but little knowledge of the diseases of the teeth and soft tissues, the most of the failures that I have seen, either in the East or West, come from mechanics, who can make a good set of teeth, so far as construction is concerned. These persons claim to be operators, and it is their operations that constitute the great bulk of the failures, which discourage the community and disgrace dentistry. They too often accelerate the loss of the teeth.

### IMPROVEMENT IN RUBBER PLATES.

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BY J. A. M'CLELLAND, D. D. S.

THEORIES are of no value until tested. In view of this, I suggest a plan, to those who wish to experiment, for putting up rubber plates, which it is thought will prevent their cracking and impart greater strength, while the plates may be made even thinner than they are now made.

The idea originated with me in October, 1860, and was suggested from the frequent applications to repair cracked

rubber plates, but having no experimental knowledge in this style of work, the plan has not been tried. It is as follows: Make a skeleton plate of woven wire cloth. (Platina wire would probably be the best, though the experiment might be made with common wire web.) The wire should be of suitable size, and not too closely woven. Fit it as well to the plaster model as possible, place the rubber over it, and proceed with the work in the usual manner. The rubber would be forced through the wire plate sufficiently to make a perfect adaptation to the cast, thus connecting the rubber on the two sides of the skeleton plate.

## Selections.

THE following remarks from the American Medical Times of Oct. 12, upon the "Preliminary education of medical students," applies with equal force to the dental student:

THE PRELIMINARY EDUCATION OF MEDICAL STUDENTS.— There is no literary institution in the United States that does not put every student that seeks to enter its halls to the test of a rigid examination in the elementary branches of learning. If not found proficient, or not to have attained the required standard, he is refused admission, and compelled to turn back and qualify himself for those higher studies, or seek some employment better suited to his talents and acquirements. We are not aware that any one has complained that this system is too rigid, or that it is unjust. No one has even suggested that it were better to allow every student who applies for admission to the classes of our literary institutions to go through a regular course unchallenged and obtain what education he could, urging that thereby he would be a more useful man than he possibly could be uneducated. The position would certainly not be irrational, and might be maintained with a good array of arguments. On the contrary, all interested in the cause of education unite in sustaining the system, and give the best support to the colleges whose exami-

nation is most stringent. Nor do the professors in these institutions complain that by being thus careful in guarding the portals to the halls of learning they so effect a diminution of their classes as to endanger the very existence of their respective schools. There exists among them a spirit of emulation, which exhibits itself in efforts to graduate classes well appointed by education to take high rank in subsequent life, rather than in measures to simply swell numbers regardless of their educational qualifications. The true measure of success with them is not the quantity but the quality of the material manufactured.

Should a literary institution be established which admitted whoever chose to apply, without an inquiry into the moral character or preliminary education of the applicant until the completion of the prescribed course, we can have no doubt as to the rank which it would take. It might boast of well filled halls, of overflowing classes, of a long catalogue of patrons, but it would never refer to the educational character of its graduates—the real test of its merits. Such a literary college would soon become a hissing and a byword among the educated, and would speedily sink under the load of infamy which it would call down upon its devoted head by such a prostitution of its powers. It would be repudiated by every honorable and high-minded student, and its diploma would be little better than if issued by the Castle of Indolence. testimonial of proficiency in learning would be but a price

set upon idleness, incompetency, and demerit.

While our literary institutions exhibit such commendable zeal in behalf of a high standard of education, and consider their chief excellence to rest in the character and not the number of their graduates, our institutions for medical learning pursue a diametrically opposite policy. They esteem the true measure of success to be the number of their graduates, and not the proficiency of these graduates in medical science. Their doors are not only thrown widely open and every one invited to enter, but, in some cases, their servants have been sent out into the highways and byways to compel students to come in that their lecture-rooms might be full. No test questions must be put to such guests, lest they should take it as an insult and attend a neighboring school. The only preliminary examination ever instituted, that we are aware of, was as to the color of the student. Some schools have not even the courage to exact the stipulated fee, lest they should give

offense and diminish their classes, while nearly all swell their lists with the names of many who are not full students of medicine. Under the title "beneficiaries," many colleges contrive to admit large classes who are totally unfit for the study, and much more the practice of medicine. All colleges agree in waiving an examination into the moral character and qualifications, by preliminary education, of the student, until he has completed the course of three years of study, and an attendance upon two full courses of lectures. And what if he is then found unqualified? Ah! but who ever heard of a medical student after "three years' study and an attendance uron two full courses of lectures, the last of which was in this institution," who was not found qualified? It is too cruel after three years of study, and especially after having attended the last full course of lectures (and paid his fees) at "this institution," to tell him flatly that he is not qualified to practice medicine. And what an amount of assurance on the part of a Faculty would it not require to do their whole duty in many instances, and candidly inform the candidate that he has altogether mistaken his calling; that he was never qualified, either by natural or acquired mental force, or by early education, for the profession of medicine; that, in a word, he has wasted both time and money in his present pursuit, and must now, after fulfilling all the required terms for graduation, except passing a "satisfactory examination," give up the course of life which he and his friends had marked out for him, and seek some more congenial avocation. No Medical Faculty, however high-minded, would have the moral courage to take from a student his time and his hard-earned fees, and then deliberately tell him the truth in regard to his qualifications. Many conscientious professors, anxious to do their duty to the profession, and yet sympathizing with the student, whose future life trembles in the balance, are annually put on the rack. With many a doubt, and much hesitation, they at last yield to the force of that policy which makes it too late to deny the student, when he is first put to the test of a rigid examination. Thus many of our best schools are betrayed into granting their diplomas to graduates who not only disgrace them, but who hang like a millstone around the neck of legitimate medicine. It is from this class that quackery, to the everlasting shame of the medical educating bodies, gains its recruits. Nor can we expect better things until a radical and complete reform is made in our system of medical

education. And that reform is suggested by the practice of literary institutions of examining candidates on their first application for admission to the course of instruction. No consideration, other than the desire to do justice primarily to the student, and secondarily to the school, could then influence the judgment of the examiner. If the applicant were disqualified by want of natural abilities to acquire a proper knowledge of medicine, he would unhesitatingly inform him, and thus doubtless would persuade him to abandon a pursuit for which he was not adapted. If he were but partially qualified by preliminary education, we would advise him to establish first the basis upon which he was to build. Thus the profession would be saved the infliction of membership with the incompetent and uneducated graduates which now annually swell its ranks.

Although the institution of this reform, and its practical fulfilment, rests with the medical schools, yet the experience of the past has taught us that the impelling power is with the great body of the profession. While the false idea of merit obtains among colleges that the size, and not the educational excellence of the graduating classes, is to be regarded, no reform can be expected. The profession at large must destroy this false and pernicious system, create a new standard, and bring the schools to its test. We are glad to notice that this first step in the reform of our system of medical education is already attracting much and deserved attention. In the Medical Society of the State of New York, Prof. Howard Townsend has brought it prominently forward in an able report; in the Indiana State Medical Society it has also been urged in an elaborate report; and at the last meeting of the General Council of Medical Education, England, the report upon medical education contains, as its first proposition, the examination of students as to their having acquired the prescribed preliminary education.

We are but too well aware that the subject of medical education is a trite and hackneyed theme. It has been discussed in all our societies, local and general, until it would seem that no new aspect of the subject could be presented; certainly until all have become thoroughly tired of listening to the reports and debates to which it invariably gives rise. Few of our readers will, we fear, even have the courage to glance down the column bearing its caption, to learn what may perchance be the particular topic discussed, and the arguments brought forward. Nevertheless, it is a subject with which no one should become weary, as it is of vital importance to his own respectability, and the social position of his profession. Certainly no one who studies to promote the best interests of that profession will ever become indifferent to the character of his associates as influenced by education. We believe, therefore, to a certain number the subject of medical education has still much interest, and that suggestions in regard to it will not fall on ears indifferent to their importance.

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DENTITION AND ITS DERANGEMENTS .- By A. Jacobi, M.D. -Lecture VI.-Part 1.-No part of the infantile organism is more exposed to injurious influences than the mucous membrane of the mouth, nor is there any which is more frequently observed to suffer. Traumatic injuries are not frequent, except those sometimes produced by sharp margins of teeth irregularly shaped; the more frequent affections are those resulting either from chemical influences, or from an excessive degree of temperature. The mucous membrane of the mouth is very irritable, being accustomed only to amniotic liquor in fœtal life, and to milk in the early stage of extra-uterine existence. Every change in the diet, therefore, the bad quality of the maternal or artificial nipples, the use of candy, sucking bags, or alcoholic beverages, coffee, or stimulants of whatever kind, will act as irritants, producing hyperæmia or inflammation in a more or less severe form. It is by no means common to observe very severe forms of stomatitis after all such preceding causes; on the contrary, the large majority of cases, including those depending on primary acute catarrh of the stomach, and the raising of a large quantity of gastric acid, so frequent in infantile age, are very mild. Nor are some of the most severe forms of stomatitis in adults often found in early age. Thus it is a peculiar fact that the influence of the external and internal use of mercury has little influence on the mucous membrane of the mouth, or the salivary glands, in infantile life. Whatever the consequences of the administration of mercurial preparations may be, salivation, or even a mild form of erythematous stomatitis, is seldom observed; in a large number of adult patients there will perhaps none be found who will not suffer from a certain amount of mercury, but of infants and children of even more

advanced age, those who show mercurial symptoms are exceptions to the rule.

There are a number of indirect influences also observed to produce the common, or erythemateus form of stomatitis. It will often be seen in dependence on, or in connection with traumatic injuries of the face, erysipelas, and hyperæmia and inflammation of the pharynx. It is further seen under the influence of many dyscrastic processes, as it is a very common symptom attending scarlatina, variola, morbilli, syphilis, and typhoid fever. It is frequently, as its causes will often continue or return, or be replaced by others, of long duration and obstinacy, like the pharyngeal hyperæmia and swelling in adults, and very generally proves a serious difficulty, although unattended by severe fever or deep seated anatomical disorganization of any particular organ. Injection, swelling, high temperature, and slightly reddened color of the mucous membrane, copious or suppressed secretion, and pain on being touched, are the usual symptoms of the common form of erythematous stomatitis.

A more severe form is that known by the name of aphthous stomatitis. The superficial layers of the epithelium are not thrown off during the hyperæmic swelling of the mucous membrane, as in erythematous stomatitis, but a real and visible change takes place in the anatomical structure of the follicles. There is a circumscribed, punctated, vascular injection around a follicle, which is gradually infiltrated by exudation. consecutive swelling increases in proportion, the follicles will burst and exhibit a superficial erosion, or ulceration, and the adjacent mucous membrane will be sympathetically affected. Some of these cases, which are by no means very frequent, look very much like the vesicles of labial herpes, with the only exception that they are less accommodated on a certain small locality; some may be explained by mechanical injuries, some can not be explained at all. If it was not for those cases occurring in the first two months of life, so well described by Beduar, aphthous inflammation of the mouth would be a very rare disease; at all events the first stage will seldom come under observation, and usually the second stage, in which the vesicles are fully developed, is brought to your notice.

That dentition, that is, the protrusion of teeth through the gums, can have nothing to do with this form of stomatitis, is manifest from the fact that it occurs mostly in the earliest period where teeth protrude in but very rare and exceptional

cases; and that, whenever it is seen in advanced age, no connection, either casual or as to time, can be found between the two. Much less can be said of all the forms of inflammation of the tongue, known to be the consequences of caustic substances, combustion, or the poisonous stings of insects; this parenchymatous glossitis has not even been supposed by the most ardent advocates of the universal danger of dentition to be the result of its influence. Nor are the most severe forms of disease of the mouth attributed to dentition, like noma, or scurvy, or diphtheritic inflammation. They are, like the usual forms of stomacace, in which fibrinous exudations are deposed into the superficial layers of the mucous membrane, with an immediate tendency to gangrenous decomposition, well known to be not only the result of a local affection, but more so of a general decomposition of the blood. They are to be considered as the local symptoms of a general disease, the former being entirely subordinate; to say nothing of the age in which they occur by preference. Diphtheritic inflammation will occur in any age, but mostly between the first and third, at all events rarely before and during the protrusion of the first incisors; scurvy, noma, and stomacace are mostly seen in a somewhat advanced age, between the fourth and tenth years of life. In these, the local affection is something; but the larger amount of the symptoms and of danger depends on the general character of the disease.

There is another form of disease, on which nearly the same remarks may be made. Inflammation of the parotid gland, both idiopathic and symptomatic, is not a very uncommon disease, except in the age of dentition. Idiopathic parotitis will usually occur as an epidemic disease, in a similar manner as diseases of the larynx, or pneumonia, will appear as an epidemic, from some causes not perfectly understood, but depending on season and the constitution of the atmosphere; this idiopathic form is seldom seen both in the first year of life and in sensile age. The symptomatic form, which will usually terminate in suppuration, and is observed in certain epidemics of typhoid fever, cholera, septicohæmia, and in some of variola, measles, dysentery, and pneumonia, is very rarely observed in small children; and therefore, among the cases of the above-named diseases, dentition is out of the question, with the exception, perhaps, of an occasional slight swelling of the parotid gland, brought on by the contiguity of the mucous membrane. I certainly do not deny the possibility of erythematous stomatitis occurring during the protrusion through abnormal gums, of perhaps an abnormal tooth, in an abnormal direction, and in an abnormally irritable child-one or more of these conditions being together, and therefore admit that a mild parotitis may sometimes occur in a casual connection with dentition; but what I deny, and have attempted to prove by the illustration of the physiological process of dentition, is this, that diseases depending on this process are not the rules, but the exceptions. At all events, not even the slightest erythematous stomatitis must be permitted to go on the plea of dentition, unless there is a local hyperæmia of the gums, the seat of the supposed cause of disease. corresponding with the more general affection. I lay the more stress on this, as I believe I have shown by the numerous causes of stomatitis exhibited to you, that we need not be at a loss to find a cause in any given case, if we are competent to form a differential diagnosis. As long as there is certainty, we had better not resort to hypothesis or conjec-

If a large number of cases of stomatitis was the result of dentition, why is it that a uniform mode of treatment, if any is resorted to, has been accepted in these cases, relating to, and dependent on this cause? And why is it, that if any uniform treatment has been accepted, and is recommendable, it is just such as has no connection whatever with dentition? And why further is it, that having no regard whatever to either teeth or gums, it is so uniformly successful? I speak of the chlorate of both potassa and soda, the effect of which in all these cases can no longer be doubted. It has long been a matter of difficulty after it had been largely introduced into practice, since the times of Hunt, West, Isambert and others, to decide whether the effect was local or general. But the experiments of Gamberini and Semmola show, that the local effect of chlorate of potassa in mercurial stomatitis is very little, if any; but that the same remedy administered in sugarcoated pills, has a satisfactory effect. My own experience has led me to the same conviction, although, if any local effect is produced, it could be done by the chlorate being transmitted into and secreted by the saliva.

Another of those diseases often enumerated among the consequences of dentition is that sometimes called membranous stomatitis, now better known by the French name of "muguet."

Muguet is an affection which a few facts will prove to have not the slightest connection with dentition. It has been generally observed in new-born infants, or in those but a few weeks old, but it is occasionally met with in more advanced life, even in adults suffering from exhausting and fatal diseases, towards the close of life. It is known by the occurrence of whitish or greyish, cream or cheese-like deposits of variable sizes, on the mucous membrane of the upper part of the digestive tract; they will be found on the lips, tongue, cheeks, pharynx, even in the larynx and esophagus, but never in the stomach. One of its prominent symptoms, as described by adults, is a burning pain in the mouth, corresponding with the local affection; that infants suffer in a similar manner, is proved by their crying on being touched, and by their unwillingness to take the breast or swallow. Where no deposit happens to be seen, the mucous membrane appears injected, dry and smooth, and but little mucus and saliva is secreted. In perhaps every case diarrhea has been observed; so regularly indeed, that Vallaix speaks of diarrhea as one of the common and almost pathognomonic symptoms of muguet. It is, however, probable that its cause is to be sought for in the impaired digestion, want of mastication, absence of saliva, and affection of the mucous membrane generally.

The enumeration of a number of symptoms does not explain the nature of a morbid process, or a pathological deposit; and nothing but a description of the pultaceous deposits on the mucous membrane will illustrate the morbid change taking place in the mouth. They consist of the mucus of the lining membranes, of old and new epithelial cells, of fat globules, particles of food more or less decomposed, and finally, of microscopical fungous growths of different size, with sharp outlines and indentations, from which equally composed thalli will originate, to such a number sometimes as to form a network of dendritic parasitic tissue. The fungus was discovered by Robin, and called cidium albicans, and has been described by Laycock, Gubler, and a host of other medical writers. is not known in any form differing from that found in the mouth, and it is probable that it is, as such, contained in the air, and deposited at the entrance of the digestive organs; at least no other opportunity for its occurrence on the mucous membrane of the mouth is possible. It may be transmitted by the atmosphere, or transplanted from one individual to another by direct contact, by the use of the same spoon, etc.

But it will not always develop itself with the same readiness, certain conditions being required. They depend on an acid condition of the mucous secretion of the mouth, a certain dryness and injection of the mucous membrane, feebleness of mastication, and easy access of air. It is important to observe, that the secretion (as far as it is kept up) of the mucous membrane of the mouth is acid instead of alkaline. It is very frequently found in infants whose mouths are not kept so clean as they ought to be, who are accustomed to sleep while, or immediately after, taking the breast, and retaining milk in their mouth, which soon is decomposed and acid. Muguet is therefore often found in foundling hospitals, where the inmates receive but little care, and uncleanliness is almost the general rule. Where proper cleanliness is strictly enforced, no muguet will appear, because no parasitic fungus is allowed to settle and form a crust of pultaceous matter. Thus pure water is both the best prophylactic and curative agent; the only thing worth adding is a small quantity of alkaline substance, chlorate of potassa or soda, carbonate of potassa or soda, biborate of soda or chloride of sodium. The mouth of every infant ought to be washed out after each meal, to be certain that no deposit remains on the mucous membrane. Where such has been the case, the local treatment alluded is perfectly sufficient. The deposit is found in the superficial layers of the epithelium; it seldom reaches the deeper ones. and scarcely ever implicates the lining membrane itself. Thus cleanliness will remove the affection; the surface sometimes bleeds when the deposit is rubbed off. The addition of sugar, rose-honey, or syrup, to the water (or weak alkaline solution), must be strictly avoided; these substances will adhere to the lining membrane and themselves undergo decomposition and prove a source of new difficulties.

The occurrence of muguet, then, is a mere accident, and has no intrinsic connection either with a distinct morbid process, or with any certain period of early infantile development. It is no more characteristic of any constitutional disease, or general condition of the system, than tinea favosa on any part of the surface, which may be communicated from either man or animal, or scabies. You readily perceive that there is no shadow of a reason to search for any connecting link between the formation and protrusion of teeth and the accidental peculiar deposit on the mucous membrane of the mouth, called muguet, which years ago could be taken for a special kind of

exudative stomatitis, but is now well understood.—American Medical Times.

REMARKS ON THE USE OF TOBACCO - By D. J. Lyster, M. D., of Brooklyn, N. Y .- It is truly surprising that a single individual can be found, who, after experiencing the distressing sensations almost invariably produced by the first use of tobacco, would be willing to risk their recurrence a second time; still more so, that any one should again and again resort to the "noxious weed" until, its immediate effects being lessened by habit, it becomes an article of luxury, from the use of which it is found difficult to refrain. The extreme nausea-pain of the head and vertigo-the cold death-like sweat, and general exhaustion, experienced by the novice in chewing, snuffing, and smoking, we should imagine would be fully sufficient to prevent the use of tobacco from becoming a habit. Yet such is "the folly and infatuation of the human mind," and the power of custom and example, in opposition to prudence and the dictates of nature, that one of the most disgusting productions of the vegetable kingdom, "in all places where it has come," to use the quaint expression of Sir Hans Sloane, "has much bewitched the inhabitants, from the polite European to the barbarous Hottentot."

Did this modern herb possess a tithe of the virtues ascribed to it by Dr. Thorus in his Patologia; did, in fact, the least benefit result to the system from its habitual use, there would then be some reason why, with all its loathsomeness of smell and taste, it should have become so general a favorite. But we know, on the contrary, that all who habituate themselves to its use, sooner or later experience its noxious powers. Tobacco is, in fact, an absolute poison. A very moderate quantity introduced into the system-even applying the moistened leaves over the stomach—has been known very suddenly to extinguish life. The Indians of our country were well aware of its poisonous effects, and were accustomed, it is said, on certain occasions, to dip the points of their arrows in an oil obtained from the leaves, which being inserted into the flesh, occasioned sickness and fainting, or even convulsions and death.

It must be evident to every one, that the constant use of an article possessing such deleterious properties, can not fail at length to influence the health of the person. In whatever form it may be employed, a portion of the active principles of the tobacco mixed with the saliva, invariably finds its way into the stomach, and disturbs or impairs the functions of that organ. Hence, most, if not all, of those who are accustomed to the use of tobacco labor under dyspeptic symptoms. They experience, at intervals, a want of appetite, nausea, inordinate thirst, vertigo, pains and distension of the stomach, disagreeable sensation of the head, tremors of the limbs, dis-

turbed sleep, and are more or less emaciated.

According to Boerhaave, "When this celebrated plant was first brought into use in Europe, it was cried up for a certain antidote for hunger, but it was soon observed that the number of hypochondriacal and consumptive people were greatly increased by its use." Dr. Cullen informs us that he has observed several instances, in which the excessive use of tobacco in the form of snuff, has produced effects similar to those occurring in persons from the long continued use of wine and opium, that is, "loss of memory, fatuity, and other symptoms of a weakened or senile state of the nervous system induced before the usual period." The almost constant thirst occasioned by smoking and chewing has, in numerous instances, it is to be feared, led to the intemperate use of ardent spirits. This thirst can not be allayed by water; for no insipid liquor will be relished after the mouth and throat have been exposed to the stimulus of the smoke or juice of the tobacco; a desire, of course, is excited for strong drinks, which soon leads to intemperance and drunkenness. The use of snuff destroys entirely the sense of smell, and injures materially the tone of the voice; while chewing and smoking vitiate the sense of taste. Hence, those who make use of tobacco to any extent, have certainly one, and frequently two of the external senses less perfect than other individuals. But this is not all; Polypus of the nose, and other serious affections, have been traced to the use of snuff.

Sir John Pringle, who, we are informed, was very liberal in its use, experienced in the evening of his days a tremor of his hands, and a defect of memory. Being in company with Dr. Franklin, at Paris, he was requested by the Doctor to observe that the former complaint was very common to those people of fashion who were great snuffers. Sir John was led by this remark to suspect that his tremors were occasioned by his excessive use of snuff. He therefore immediately left it off, and soon afterwards the tremor of his hands disappear-

ed, and at the same time he recovered the perfect exercise of his retentive faculties.

Cases could be mentioned in which epilepsy, consumption, and other serious diseases have been brought on in young people by the excessive use of tobacco. I have known myself individuals in whom very severe and dangerous affections of the stomach, tremors of the limbs, and great emaciation were referrible to excessive smoking and chewing, and which were removed only after these habits were entirely relinquished.

One or two of these cases, I am sorry to say, occurred in females, from the filthy practice of chewing snuff; and in a class of society where it was to be hoped a refinement of taste and exalted notions of female delicacy, would forever have precluded the introduction of so detestable and pernicious a habit.—American Medical Times.

# Correspondence.

### DENTISTRY IN CALIFORNIA.

DR. TAFT, Editor of Dental Register:—As a graduate of the Ohio Dental College, I, of course, feel an interest in those who sustain the institution, and also in the Dental Register, and most willingly comply with your request by writing a communication for said journal, to give my old friends in Cincinnati, and the profession generally, an idea of dentistry in California.

A few years ago, any imposter, with a few old-fashioned pluggers and a turnkey, could, on a pedestrian journey thro' the country and in the city, from house to house, receive great encouragement in his quackery. But that time has passed, and to obtain a permanent and respectable practice here now, a dentist must be as well qualified as he is required to be in any other part of the country. I suppose that in no part of the United—or now "discordant and belligerent"—

States have the people suffered more from charlatanry in the dental profession than in California; and as time has revealed this to the victims, the whole fraternity has been brought into disrepute, or at least every member of it in the State is subject to suspicion until he has furnished abundant evidence of his professional skill and personal honesty. Consequently, there is not much itinerant practice done now; but the profession is by no means purged of empiricism, and all classes of dentists are here to be found in abundance. Dentists are established in nearly all the little towns in the State and in the cities are hosts of them. Some, relying upon their qualifications, maintain a professional dignity, command respect, and obtain a fair remuneration for their skillful operations others, wonderfully indignant that their professional brethren should exact such exorbitant fees for services rendered the poor laboring people, advertise to do work so cheap that "the wayfaring man, though a fool," may be able to patronize them.

These same philanthropic gentlemen do not wish to make money; they only want a living, and finding their labor of love might not be well considered or appreciated, are so remarkably kind as to let the people know it in the streets, to visit their dwellings and tell them of it; and it is really believed by some that they "do as much work" out of the office to get "custom," as they do in the office to get clear of it.

A great many good dentists have come to this State within the last few years, who, being unable to meet the heavy expenses to which they, ex necessitate, were subjected, were compelled—unless they descended to the unprofessional conduct of some of their competitors—to get into some other business or to return to "the States;" and if they were enabled to continue in the practice by accepting the gauntlet of empirics by operating as cheap, and being as unprofessional, they never can accomplish anything—for, being so poorly paid, they do not feel justified in bestowing the necessary attention on their operations, or in using the right quality

and quantity of material, and consequently never acquire a desirable reputation, and nobody ever knew a "cheap dentist" to get rich. Dentists here, I am sorry to say, do not fraternize, but seem to regard each other as enemies, and consequently, there are no societies for mutual edification, and for the advancement and promotion of the profession. There are many first class dentists in the State, however, who keep thoroughly posted up, and every style of artificial teeth used in Cincinnati can be had here—not even excepting the porce-There is also another style of work—the use of which is confined to the office of Thomas & Anderson, in this city-invented by Dr. W. H. Thomas, with whom I am associated—that has not yet been heard of in "the States," to my knowledge. A plate of platina is fitted to the mouth, and a combination of metals which does not tarnish, and which seems free from galvanic action, is used to unite the teeth to the plate and surround them (as the vulcanite teeth are encased in the rubber)—thus making the piece cleanly and He has also been using the same style of work with cheaper materials for temporary work; but of that, together with the modus operandi, you may hear more anon. In my next I will write on some branch of dentistry, which I hope will be more interesting. Respectfully, yours,

J. D. ANDERSON.

THE FOURTH ANNUAL SESSION OF THE INDIANA STATE DENTAL ASSOCIATION is hereby announced to be held in the City of Lafayette, commencing at 2 o'clock, P. M., on the second Tuesday in January, 1862.

In making the above announcement, the Secretary begs leave, most respectfully, to urge upon each and every member the importance of a full and prompt attendance at our coming meeting.

Causes not necessary to refer to rendered it advisable to postpone the convocation of the semi-annual meeting ordered

Notice. 665

in July last, of which due notice was given by Circular. Much business relating to the organization and the interests of the profession in the State, has thus accumulated, which will greatly add to the importance of the annual session, and give zest to its deliberations.

Without enumerating the various considerations which at this particular time seem to call for zealous and energetic action, each member will doubtless see the necessity of being at his post.

Several distinguished members of the profession, outside the State, have signified their intention to be present; and many more will be invited.

The well known hospitality of our brethren in the beautiful "Star City," and the unusual interest which the meeting promises, we trust will prove sufficient inducement to call out every member of the Association.

To those of the profession in the State who have not yet joined our Association, as well as all physicians who feel a friendly interest in our specialty, we extend a most cordial invitation to be present and join in our deliberations.

Our object being to elevate the standard of professional excellence, and to harmonize and consolidate the interests of the Craft, with the ultimate view of benefiting alike the practitioner and the patient, we can but believe that it will prove greatly to the advantage of all interested to come promptly forward and aid in the good cause.

All those who receive this Circular are requested to extend the above invitation to all respectable Physicians and Dentists in their vicinity, or furnish a list of them with name, title and address, to the undersigned, Box No. 327, Terre Haute, Ind.

S. B. SMITH,

Rec. and Cor. Sec. Ind. State Dental Association.

## Editorial.

#### AMERICAN JOURNAL OF DENTAL SCIENCE.

THE inquiry, where is the American Journal of Dental Science? produces a feeling of sadness—is it no more? only among the things that were? We have looked and looked for its coming, but it came not. It lived but a few days after him by whom it was produced, and by whom it lived. It was identified with Dr. Harris, and lived while he lived, and died when he died. Could there be none found to breathe into it the same spirit it possessed before? The seventeen volumes of the American Journal of Dental Science constitute a great and enduring monument of the editor and author. who, amid other cares, and toils and labors, carried on such a work. Shall it be said that the American Journal accomplished its destiny, or that it accomplished all the work there was to do? This at least could not have been affirmed had the author lived. We know not who would undertake such a work. We can hardly say that we wish to see the American Journal again; sorry indeed would we be to see that name associated with a less efficient and powerful mind than that which hitherto conducted it. It stands now a representation and embodiment of the art and science of the dental profession during the years of its publication, and though it may never again be published, its influence, like that of its noble author, will run down through all time.

#### TEETH.

WE have recently been using teeth from the manufactory of D. H. Porter, of Bridgeport, Conn. These teeth we have never seen excelled; we have used more of his continuous-gum teeth than any other kind. This is the most trying kind of work upon teeth; it will blister or break those that are defective.

These teeth have passed through several heatings without changing, or sustaining the least injury; and we have seen none that are better formed or colored, or that look more life-like. The gumteeth and those in sections for rubber work are very fine. These

teeth require only to be introduced to the profession to come into general use. Hitherto we have had no facilities for obtaining these teeth except direct from the manufacturer. We hope, however, that arrangements will be soon made to supply our market. T.

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CLOSE OF THE VOLUME

With this number closes the fifteenth volume of the Register. It started out under favorable auspices, but it, like everything else of the kind, has been overtaken by an evil time. Contributors are less in number, and less inclined to write than formerly; subscribers are less numerous, and either have less money, or hold more tightly to it, than before. We hope, however, that notwithstanding all these discouraging circumstances, the Register has accomplished some good; we do not claim that it is the embodiment of dental science. We are willing the profession should set their own estimate on it. For the future, we can only say the Register will pursue the even tenor of its way, flourishing and rejoicing, in proportion to the sustenance it receives from the pens and pockets of our professional brethren.

#### PERSONAL.

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Perhaps we should have stated before this some facts and circumstances concerning our friend J. T. Toland. The profession generally, or in the West at least, are doubtless aware that he is not now, in person, looking after their interests in the way of dental supplies. His patriotism so expanded that a Dental Depot couldn't hold him; he therefore placed the dental business in competent hands, and off to the war, where wearing the garb and wielding the authority of Lieutenant Colonel, he fights for his country, striking hard blows, with a heavy hand, upon rebels wherever found. Than he none are braver.

Every one who knows John knows he will fight. The Dental Depot is under the best management, and as ever, supplies the profession, in its every demand, with the best material obtainable, and will continue to do so.

T.

#### CASE FOR OFFICE LATHE.

THE accompanying cuts represent a dental lathe case, devised and planned by our friend Dr. H. R. Smith, of this city. We have thought an illustration and description of it might be of interest. Fig. 1 represents the case entirely closed, and shows it as a beauti

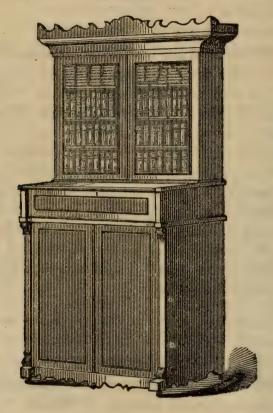


FIG. 1.

ful piece of furniture. Fig. 2 represents the case as thrown open, so far as the lathe departments are concerned, and from it we will say a few things. It is made in three sections; the lower is 3 feet 8 inches high, and 3 feet 6 inches wide, and 20 inches deep. It is divided in the center by a partition, one side of which is occupied by a tier of drawers, five in number. These are for storing dentifrices, napkins, cotton, wax, etc., etc.

On the other side of the partition is the wheel, treadle, etc. of the lathe. The front of this section is closed by two doors; upon this is placed the second section, the front of which is 9 inches high, and drops forward, in the same manner as the old style secretary;

this, together with the inner part, constitutes the platform, upon which the lathe is placed.

There is back of the lathe a shelf and drawers, for small tools, teeth, etc. The top, to the width of 10 inches, is attached with hinges, and raises up at the same time that the front falls forward. One of St. John's adjustable lathes is used. This may be closed up by bringing down the top, and raising up the front, which are secured together by a lock.

The third section consists of a book-case, four feet high, which stands upon the second part.

The whole is beautifully finished with mahogany, and is highly ornamental, as well as useful, in a variety of ways. It was made

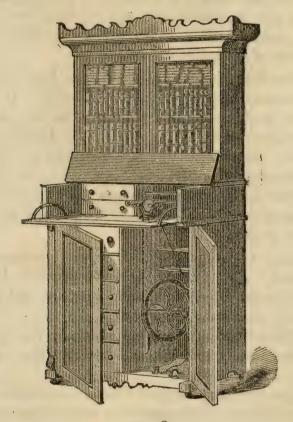


FIG. 2.

by Mr. Dolph, dental furniture manufacturer, of this city, under the supervision of Dr. Smith, at a cost of about \$40.00. The Doctor will be pleased to show it to any one who may desire to see it.

T.

#### ASSOCIATIONS.

The disturbed condition of our country has very much interrupted the regular meetings and business of all professional associations during the last nine months. The attention of the people has been almost wholly absorbed by the magnitude and character of the passing events; in them our very existence as a nation has been involved.

Many associations of various kinds have, during this time, been postponed to a more convenient season; others, without any postponement, failed to meet; others, again, had feeble meetings, and accomplished but little.

The idea that our country, as a whole, is to be plunged into sudden and utter ruin has passed away, and all things have assumed a more steady position. Now associations and societies may meet, with a prospect of accomplishing something.

The organizations of the dental profession have not, perhaps, suffered more from these causes than other bodies. In regard to the meeting of the American Dental Convention, held at New Haven in August last, we are free to acknowledge that we were agreeably mistaken. A good meeting was held, both in regard to the number in attendance and the work done; and this, too, in the midst of the whirl of excitement that prevailed everywhere. This we hail as one of the best indications of the progress and vigorous growth of our profession.

Other associations have resumed their regular meetings, and gone actively to work; among which is the Pennsylvania Association of Dental Surgeons, which is meeting monthly, and presenting good reports of discussions, essays, etc.

The New York Dental Association also holds its regular meetings, which are largely attended, and are, doubtless, of great interest.

In association and interchange of views and opinions, the members of the profession in large cities have vastly the advantage over those elsewhere; and if those thus situated worked together as they should, they would necessarily outstrip in attainments those less fortunately situated; among the latter, however, we find some of the best students.

Announcements are issued, calling for the meeting of several

other dental societies, among which is the Indiana State Dental Association. That call is found in another page of this number of the Register. That meeting, we doubt not, will be a good one, and should be attended by every dentist in the State, and those outside of it, too, as far as possible. There is an accumulation of business, as one regular meeting was postponed.

The Mad River Valley Association holds its regular meeting in January.

The Central Ohio Association, we believe, also holds another meeting soon.

The Mich. Dental Association is announced for the first Tuesday of January.

There are other societies for the meeting of which calls have not been issued; among which are the Western Dental Society, The Miss. Valley Association, The Northern Ohio Association, and the Kentucky State Dental Association; all of which, we presume and hope, will hold their regular meetings, and answer the full design of their organization. The springing up of local societies is one of the most favorable indications for the future prosperity of the profession. The tendency of these is to familiarize the members with all practical details; to establish unity of practice, which is a very important matter; to do away with prejudice and animosity, and cultivate friendship and good feeling. These associations will ultimately aggregate all in the profession that is truly valuable.

T.

#### MEETING.

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THE regular meeting of the Mad River Dental Association will be held at Xenia on the first Thursday of January next, when it is to be hoped there will be a full representation of that part of the country. Some interesting subjects will be presented for discussion, in which all should participate, and by which all would be profited.

T.

A Course of Six Lectures on the Chemical History of A Candle, after which is added a Lecture on Platinum. By M. Faraday, F. R. S.—In these lectures is discussed in a very plain, familiar manner, all the elements concerned in the production of the

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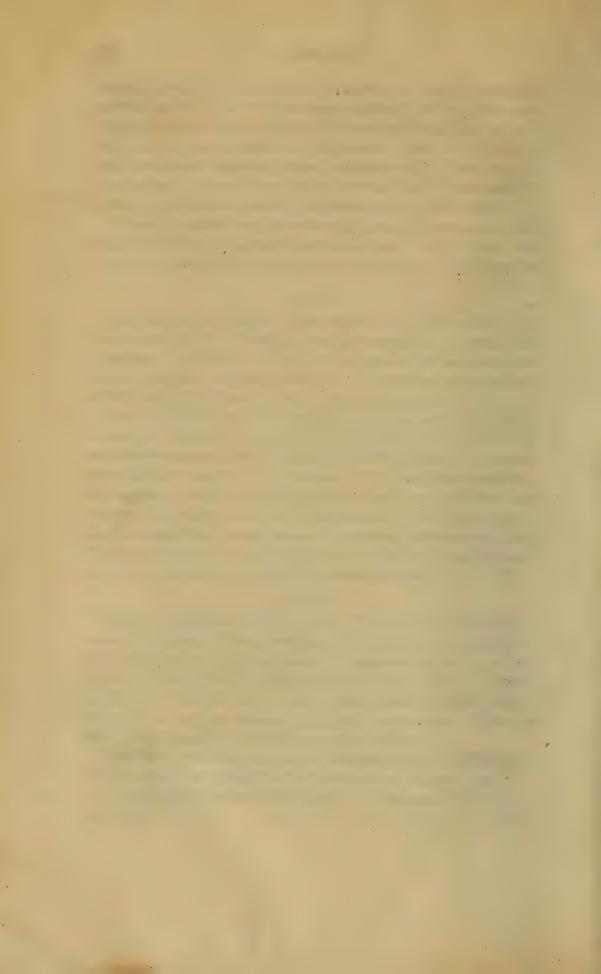
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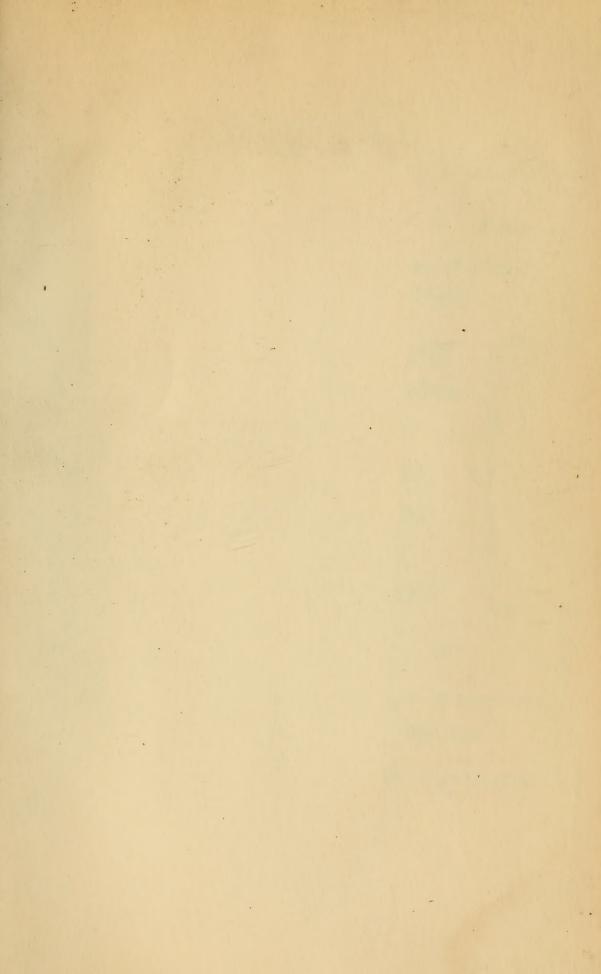
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